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# USSR Report

AGRICULTURE

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

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### IMPLEMENTATION OF INTENSIVE GRAIN-PRODUCTION TECHNOLOGY

Sverdlovsk URALSKIYE NIVY in Russian No 1, Jan 86 pp 14-16

[Article by I. Gridasov, deputy director of the Orenburg Oblast Agricultural Administration: "A Modern Method of Production for the Grain Field"]

[Text] Solving practical tasks related to the accelerated development of grain production depends directly on the labor organization of workers in kolkhozes, sovkhozes and all enterprises of the agroindustrial complex on the basis of already-existing experience in highly productive and effective work and of the latest achievements of agricultural science. It is this path that is being followed by the collective of farmers in Sovkhoz imeni Gagarin of Orenburgskiy Rayon, Orenburg Oblast, where the first experiment related to the production of farm products on the basis of intensive technology yielded a significant growth in the productivity of wheat and potatoes. In this article the leading specialists of the enterprise and oblast discuss their work to introduce intensive technologies on the fields of Orenburg Oblast.

At a meeting of the party-economic aktiv on 7 September 1985 in the city of Tselinograd there was a special discussion about the urgent necessity to make a transition to a new progressive technology and to more effective forms for utilizing material resources, and to concentrate these resources in those areas where they will yield the largest return. Right now the cultivation of grains on the basis of intensive technologies, which are an important element of scientifically-based farming systems, is a priority.

The assimilation of these technologies has resulted in qualitative changes in farming in Orenburg Oblast. In accordance with the recommendations of scientific institutions as concerns specific soil-climatic conditions in each enterprise, the structure of fields has been corrected and the area in clean fallow, perennial grasses and legume crops has been expanded. Farmers are applying more organic and mineral fertilizers and the area of land cultivated with the help of soil-conservation technology has been increased. Consequently, integrated mechanization, which enables us to curtail the time needed for field work, is being implemented. Measures are being taken to

accelerate the propagation and introduction into production of new varieties of grain crops of the industrial type; improvements in seed farming have been noted.

Thus, the work that has been completed has created the necessary conditions for placing grain production on a principally new foundation, which will allow us to achieve a higher level of intensification of the grain industry.

The essence of intensive technology for grains involves giving the field and crops everything they require and taking all they can give. This is the extent of the philosophy of our work.

In intensive technology there are no secondary factors for raising productivity and grain quality--all factors are equal and a violation of one will result in underproduction and a decrease in quality. The words of K. A. Timiryazev have begun to sound with great urgency: "In no other operation is so much comprehensive information available or required; nowhere else can the passion for one point of view result in such enormous failure as in farming."

With the goal of increasing the production of winter crop and spring wheat seed and of increasing its quality, the buro of the CPSU oblast committee and the executive committee of the oblast council of people's deputies have obliged Orenburg farmers to introduce intensive technology for the cultivation of winter crops on 200,000 hectares and of spring wheat--on 250,000 hectares, including on 100,000 hectares after clean fallow and on 150,000 hectares--as the second crop after fallow.

Here two equally important goals are being pursued--to achieve a productivity on clean fallow at a level of 20-22 quintals per hectare and of 15-18 quintals per hectare for the second crop after fallow, and to produce marketable grain that satisfies the highest GOST requirements for strong and durum wheat.

The indicated level of wheat productivity has already been achieved in previous years in many rayons and enterprises. Thus, in 1968 26 quintals of spring wheat were harvested on each of 155,000 hectares. The same yield was achieved by the enterprises of Orenburgskiy Rayon. Kolkhoz imeni 9 Yanvarya in this rayon achieved a yield of 31.4 quintals per hectare.

In 1976 Buzulukskiy Rayon harvested 18.4 quintals of spring wheat from each of 66,900 hectares, and Tashlinskiy harvested 20.2 quintals from each of 101,700 hectares. Over 25 quintals of wheat per hectare were produced by Kolkhoz imeni K. Marx of the same rayon. In 1983 19.4 quintals of durum wheat were threshed per hectare in Matveyevskiy Rayon, and in Buzulukskiy Rayon--20.8 quintals of strong wheat per hectare. All of these indicators are for spring wheat, which is sown even after less suitable predecessors. As for scientific and teaching test-production enterprises and variety plots, a yield of 20-25 quintals per hectare has long been the norm there.

The skillful use of methods to intensify the cultivation of wheat will provide the opportunity to expand the circle of enterprises where productivity is increased by 5-6 quintals per hectare, thereby making the wheat field more resistant to drought.

Intensive technology foresees another goal as well--the cultivation of strong and durum wheats that correspond to the best world standard. Soil-climatic conditions of any rayon in the oblast allow us to produce such grain. Moreover, even on the average for the oblast during individual years spring wheat corresponded to the highest GOST standards in terms of quantity and quality of gluten.

The task of intensifying grain production is not an easy one, but it can be accomplished. This is attested to by the experience of cultivating winter crops in many enterprises and entire rayons. Let me give some examples. In Asekeyevskiy Rayon in 1983, 30.5 quintals of winter wheat were produced per hectare, and in Kolkhoz imeni Kuybyshev--39.9 quintals per hectare. An even larger, and we can say record, harvest of winter wheat was achieved in Kolkhoz imeni Komintern of this same rayon--51.4 quintals per hectare.

In Buguruslanskiy Rayon the productivity of winter wheat comprised 30.2 quintals per each of 4,500 hectares, and in Leninskiy Put, Mayak and Druzhba kolkhozes--40-44 quintals per hectare. In Pobeda Kolkhoz of this rayon winter rye yielded 50.4 quintals per hectare.

In Perevolotskiy Rayon in Yuzhnouralskiy Sovkhoz each hectare of winter rye yielded 41.8 quintals per hectare, and in Kolkhoz imeni Kirov--35.5; in Perevolotskiy Sovkhoz the yield of winter wheat equalled 46.5 quintals per hectare.

Many kolkhozes and sovkhozes of Orenburgskiy, Ilekskiy, Buzulukskiy, Novosergiyevskiy and a number of other rayons in the oblast have been producing yields of 30-40 quintals of winter crops per hectare from year to year.

Thus positive experience regarding the intensive cultivation of winter crops and spring wheat does exist in practically every rayon or zone. The most important thing is to make this the achievement of all kolkhozes and sovkhozes.

Let us stop to discuss several practical questions related to introducing intensive technologies for cultivating spring wheats.

In the oblast wheat will be sown on almost 2 million hectares. Statistics show that from year to year its yield is lower than that of barley, oats and especially of winter crops. Thus, in 1983 the productivity of wheats throughout the oblast equalled 12.5 quintals per hectare, and of barley--18 quintals per hectare. Moreover, whereas Matveyevskiy Rayon produced 19.1 quintals of wheat per hectare, Abdulinskiy produced 16.2 and Sharlykskiy--only 13.4 quintals of wheat per hectare. Here we should consider that all three rayons are located in the same natural-climatic conditions.

An analysis shows that one of the main reasons for the low productivity of spring wheats in Abdulinskiy, Sharlykskiy and other rayons is the slow assimilation of scientifically based farming systems, and above all of their main link--crop rotations.

An important factor in the successful introduction of intensive technologies for cultivating spring wheats is their placement on clean fallow. Clean fallow in and of itself is a powerful factor in intensification. In combination with a good application of fertilizer it retains a significant portion of its productive strength for subsequent years. Fallow is the accumulator of moisture and nitrates. The struggle against weeds is carried out most successfully on it. However, it becomes the best predecessor only when the entire complex of agrotechnical measures for fallow development is carried out in full and at the optimal time. And still, the extent of work is often limited to plowing and cultivation (incomplete), and even this is done with violations in schedule and quality.

In many enterprises crop rotations foresee the sowing of spring wheat as the second crop after fallow. It is considered that good predecessors for spring wheat are winter rye, legumes and intertilled crops harvested for top dressing, which provides the opportunity for early plowing and for applying the necessary quantity of fertilizer.

Soil conservation measures were and remain a decisive factor in questions of maximal accumulation of moisture in the soil and of its efficient use. Unfortunately, these questions are still not being solved in some rayons to the degree foreseen by the General Plan of Counter-Erosion Measures and Farming Systems. The reason for this is that many specialists have not been able to dispel their old tendencies to use traditional plow cultivation and because they utilize existing counter-erosion technology ineffectively.

It should be kept in mind that a significant portion of crops utilizing intensive technology are placed on land that was cultivated with sweeps, especially in the eastern part of the oblast. Here it is essential to adhere to all of the technology for preparing the soil with the extensive use of the entire selection of the necessary counter-erosion technology while giving special attention to the efficient operation of KPG-2.2 cultivators used for the application of elevated doses of mineral fertilizers.

Early well-fertilized plowland always provided stable harvests of all agricultural crops. Unfortunately, early plowing is still practiced to a very small degree here. There are instances in which the sowing of grain crops is carried out on fields plowed in the spring. In connection with this, when introducing intensive technologies for cultivating spring wheats special significance is attached to basic soil cultivation regardless of what type it is--plow or sweep. As a rule, all of these questions are dealt with within the framework of specific soil-climatic conditions within each enterprise and of the specific field, with a consideration of the crop being sown, the fertilizer and so forth. In many enterprises post-harvest skim ploughing of stubble has been unjustifiably forgotten.

The presowing cultivation of the soil is an important agrotechnical device which is given little attention in individual enterprises as well as rayons as a whole--frequently it is reduced just to harrowing. Enterprise specialists, fearing the loss of moisture, avoid the leveling of the field surface, which does not enable them to place seed at the same depth and to produce even

shoots. On weed-infested fields, and this is possible when sowing wheat as the second crop after fallow, pre-sowing cultivation is mandatory. Here special attention must be given to adjusting cultivators and the sharpening of blades.

In each soil-climatic zone of the oblast, rayon or enterprise the optimal sowing schedule has been determined depending on the condition of the soil, the development of spring, moisture supplies and the variety being sown. For various organizational reasons many kolkhozes and sovkhozes are not included in these schedules, which results in the underproduction of the harvest and in a deterioration of grain quality.

In some enterprises spring wheat is sown at an elevated rate (up to 6 million seed per hectare) in an attempt to suppress weeds. The sowing rate should be based on biological reasons, and on concern for the harvest and its quality. Spring wheat should be sown according to intensive technology only using regionalized varieties of strong and durum wheats with the goal of producing not only a large harvest but also grain of the very highest quality. Of the strong spring wheats the following will be cultivated in the oblast, especially in the eastern zone--Saratovskaya 29, yielding grain of the highest test results, Saratovskaya-42, Tselinnaya-20, imported from the Altay, and Novosibirskaya-67. But it is undesirable to sow them according to intensive technology because they are not yet regionalized for the oblast.

Of the durum wheats, Kharkovskaya-46 and Orenburgskaya-2 will be sown. Both of these varieties yield good harvests of quality grain when the proper agrotechnology is adhered to.

The quality of seed being sown has a considerable effect on the harvest. To carry out seed farming today it is not enough to know the indicators for germination, cleanliness, moisture and infection of seed. In European countries a new indicator has been introduced--growth power. Seed with a high degree of growth power withstands radical changes in soil temperatures during the germination period better, rots less, forms more even shoots, develops root systems more intensively and yields a larger harvest.

As for technological problems related to obtaining high-quality grain, attempts to solve these problems by means of agrotechnology alone cannot yield positive results because this agrotechnology is basically reduced to strengthening plant nutrition. The selection of predecessors in and of itself still does not solve the problem. There are insufficient reserves of nitrogen and other elements for obtaining a large harvest and for accumulating the necessary amount of gluten in grain. The most acceptable method for improving grain quality is the efficient use of mineral fertilizers and the regulation by them of the processes of gluten storage.

In long-term experiments of our NIISKh [Scientific Research Institute of Agriculture] the use of nitrogen or nitrogen-phosphorus fertilizers for Kharkovskaya-46 durum wheat increased the protein content of grain an average of 1 percent and more.

It is important to determine not only which types of fertilizer are needed to raise quality but also the quantities in which they are needed, in which ratios, when they should be given to crops and by what methods. Preparations for this must be made in advance. As for norms and ratios, this is done according to the balance method with a consideration of the planned harvest, i.e., of expected depletion and with an analysis of the agrochemical study of fields.

The data of scientific institutions shows the exceptionally high degree of effectiveness of using nitrogen fertilizers in the form of top dressing during the phase of ear formation to grain development. Moreover, not just any nitrogen fertilizers are applied, but urea or float (2 kilograms of urea + 1 kilogram of ammonium nitrate) at a rate of 20-30 kilograms of active substance per hectare. The expediency of top dressing is established with the help of tissue and leaf diagnostics, the instructions for which exist in every enterprise.

With the introduction of intensive technologies for cultivating spring wheats there will be an increase in the role of organizational work to prepare the soil for harvesting, to evaluate grain quality on a preliminary basis and to form batches on the threshing floor, and to deliver them to grain-reception points. The role of these measures is sometimes no less important than agrotechnical decisions.

The fulfillment of the measures mentioned in this article will enable the oblast's kolkhozes and sovkhozes to successfully deal with the task set before farmers as concerns the intensive cultivation of winter crops and spring wheat and growth in the production and sale of grain to the government.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

INTENSIVE TECHNOLOGY FOR GRAIN CROP PRODUCTION IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 13 May 86 p 1

Leading article: "For a Large Kazakhstan Grain Harvest"

Text The rumbling of tractors was continuing on fields in southern Kazakhstan and warm weather had still not settled in. Nevertheless, the land had taken on a dark emerald green color as the grain crops increased in size. Carefully tended by the sowing personnel and generously watered by rainfall, the land inspired hope for a good harvest.

But it is not enough to live only on the basis of a hope or dream for a good harvest. Such harvest must be obtained during any year and under any conditions, with the caprices of nature being overcome by accumulated farming experience, by agronomic knowledge, by the capability of the equipment at the disposal of the grain growers, by the skilful organization of labor and, most importantly, by a sincere desire to achieve high yields. This is what crowns the carrying out of difficult work on earth.

The farmers in the principal grain oblasts of the republic will very soon commence this difficult work of creating the first harvest of the new five-year plan. To obtain this year not less than 29 million tons of grain -- such is the task that has been assigned to the grain growers by the 16th Congress of the Communist Party of Kazakhstan.

A large grain harvest for Kazakhstan has always been and continues to be the primary concern of the party organizations, the soviet and economic organs and all workers attached to the republic's agroindustrial complex. The appeal made by the brigade leaders of the tractor-field crop production brigades of Hero of Socialist Labor T. Abelpeisov, Hero of Socialist Labor I. Trenenkov, V. Spesivtsev, Zh. Kakimov and S. Zinyevich, approved by the Central Committee of the Communist Party of Kazakhstan. They view the extensive use of the intensive technology for cultivating grain crops as the chief reserve for raising the productivity of the virgin land fields. This was borne out by last year's results, when the new method was mastered for the first time in the republic over large areas.

This year the republic's intensive fields will occupy 5.5 million hectares, mainly in the northern oblasts -- the chief producers of wheat. According to computations, the intensive technology must furnish an increase in the gross

yield of grain on the order of 3.3 million tons. But this requires programmed yields. For example, the grain yield following clean fallow must be not less than 20 quintals per hectare and the average yield from a hectare of intensive field is more than 17 quintals. Last year many farms achieved such indicators. And at such sovkhozes as the Voskhod, Zlatopolskiy and Karagandinskiy and at the Karabalykskaya Agricultural Experimental Station and others, 28-30 and more quintals of wheat were obtained per hectare of fallow field. This underscores the tremendous potential embodied in the intensive technology. But strict technological discipline is required if this potential is to manifest itself in actual practice. The agronomic science has developed clear recommendations for the intensification of grain production and they must be viewed as law by each brigade. An analysis of last year's results has shown that it is not drought conditions but rather violations of the technological discipline and deviations from the recommendations by the agronomic service that cause shortfalls in the yields on many farms. As a result of weak control on the part of specialists, full use has not been made of the available mineral fertilizers and plant protection agents, the sowing schedules and seed norms have been violated and they have not been of the required quality in all areas.

Attaching considerable importance to further expanding the areas for the cultivation of grain crops using the intensive technology, as the chief direction to be followed for raising the stability and increasing the production of high quality grain, the CPSU Central Committee and the USSR Council of Ministers last year adopted a decree which stimulates workers attached to the agroindustrial complex into achieving greater results from the introduction of this progressive technology. In accordance with this year's results, medals and decorations will be awarded to the leading production workers, specialists, farm and enterprise leaders and scientists. These moral stimuli have been strengthened by an increase in the deliveries of agricultural equipment, mineral fertilizers and herbicides. The agroindustrial committees and RAPO's must raise the responsibility of the farm leaders and specialists for the intensification of grain production. The expenditures for this purpose, and they are considerable, must be repaid by additional crop yields.

One of the chief reasons for the shortfall in crops from intensive fields is the inadequate level of the agrotechnical culture. At the present time, the clean fallow areas in crop rotation plans have been raised to the scientifically sound norms. This year they amount to one half of the intensive fields. It is important for normative yields to be obtained from them; many farms failed to do this last autumn. As a result of unsatisfactory work in the agrochemical cultivation of fields and poor tending of the fallow, a shortfall of approximately 1.5 million tons of grain was experienced last year from these fields.

An analysis of the factors which affect yields, when use is made of the intensive technology, reveals that only such measures as the complete mastering of crop rotation plans, the correct use of available mineral and organic fertilizers and the organization of integrated plant protection, will ensure a gross grain yield of 9-10 million tons. Thus the agronomic service must devote special attention to the utilization of these factors.

This is the second year that the intensive technology is being employed in Kazakhstan and naturally it still has not been worked out in all areas. Nor

has every farm acquired experience in this regard. Thus, during the winter agrotechnical training was organized in all areas for the brigade leaders and machine operators. Nevertheless the intensive fields must be entrusted to very experienced farmers and particularly to brigades which operate on the basis of a collective contract.

Compared to last year, the area of the republic's intensive fields has increased by almost 1 million hectares. This imposes a great amount of responsibility upon the agroindustrial committees and RAPO's /rayon agroindustrial associations/, the farm leaders and specialists, the engineering service, agricultural chemists and land reclamation specialists -- all partners of the farmers. Indeed, in addition to farms in the virgin land oblasts which are engaged in wheat production, rice growers, corn growers and millet producers are also converting over to the intensive technology. The more rapidly and more successfully they master the intensive technology, the shorter will be the path leading to high guaranteed yields and the more worthy will be the contribution made by the agricultural workers of Kazakhstan to the country's Food Program.

Only a few days remain prior to the commencement of mass sowing operations on the republic's main grain fields -- on farms in the northern oblasts. Here large areas are being set aside for the intensive technology. The virgin land sovkhozes and kolkhozes must furnish the principal increase in the Kazakhstan harvest. This is the duty and obligation of farmers in the region, since here the farms are being supplied with considerable assistance in the form of equipment, fertilizers, plant protection agents and other material resources. In addition to increasing the production of grain, the task also consists of sharply increasing the yields and procurements of highly valuable grain of strong and durum wheats. The potential is available for accomplishing this. During the winter, a great amount of work was carried out on farms in the northern oblasts in connection with making preparations for the new harvest. As a result, fine supplies of moisture accumulated in the arable land, more organic fertilizer than usual was applied to the fields, mineral fertilizers were applied and the quality of the seed improved. However the principal and more important work lies ahead. The sowing must be carried out on a timely basis and in a high quality manner: neither earlier nor later, but strictly in conformity with the agrotechnical periods established for each crop and each variety. There was a time when farming work implied merely the sowing and harvesting of crops. Grain must be cultivated. This implies the carrying out of an entire complex of agrotechnical measures, commencing with moisture conservation measures and pre-sowing working of the ground and finishing with tending the sowings and harvesting the crops. Only strict observance of technological discipline can guarantee the computed yield.

The new spring, a busy period for the grain growers, has arrived on the republic's main grain fields. The party organizations in the rural areas and the rayon agroindustrial associations must mobilize all of their efforts in the interest of successfully carrying out the sowing work. The foundation for the harvest is being established at the present time. And the size of the harvest will depend upon just how well the farmers work during these very important spring days.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

OBLAST GRAIN PLANS, PROBLEMS, PROGRESS DISCUSSED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 May 86 p 1

[Untitled article by V. Vedenko, I. Yavorovskiy, A. Raysh, N. Drozdetskiy, and M. Murzaguzhinov]

Text Kustanay Oblast. It was almost as if it was the harvest period, with mountains of select grain turning golden in color on the threshing floors. This seed, removed from the storehouses, was absorbing fresh air and the warmth of the sun. In accordance with agronomic procedure, it is referred to as hot air warming. It accelerates the revival of life in the grains.

And life is already in full swing on those fields where the seed has already been placed. The unusually hot spring weather this year is causing problems for the farmers. However, in addition to alarming signals -- moisture must not be lost from the soil -- there are also some gratifying ones: the weeds are rapidly germinating and becoming very vulnerable to cultivation. A fine possibility exists for cleansing the arable land. It would be unpardonable to overlook such an opportunity; instead of wheat, wild oats are growing on too many Kustanay fields. At the same time, the sowing work must not be dragged out.

This year the oblast will cultivate 1,210,000 hectares of grain crops using the intensive technology. Of this amount, 60,000 hectares were allocated for the very first time for millet, which furnishes fine yields in the very dry southern rayons. In all, the plans call for 700,000-800,000 additional tons of grain alone to be obtained from these intensive fields.

But, just as in the past, the principal portion of the Kustanay harvest will be provided by fields cultivated using the conventional technology. Thus each hectare of the more than 4 million hectares of grain fields requires strict attention on the part of the grain growers.

What has been done for the purpose of coping with this task? The equipment has been prepared in a better manner than was the case last year. An adequate supply of fuel was created for this equipment; this was often a problem in the past. Sufficient mineral fertilizer is available not only for the intensive fields but also for the principal portion of the other fields.

The sowing work is being carried out by more than 1,000 tractor and field crop production brigades, mainly contractual and cost accounting brigades. Party or party-komsomol groups have been created in them. And party organizers were sent out to those areas where the staff of communists precluded the possibility of creating these groups. This tremendous force is required for organizing all work in the field so that it can be carried out rapidly and in a high quality manner.

However, the desired degree of order is not to be found in all areas. On the eve of the mass movement out onto the fields, many tractors still remained immobile in Naurzumskiy, Kamyshninskiy, Karasuskiy and Leninskiy rayons, especially the Kirovets machines. Moreover, there has been frequent criticism of the repair work carried out by the Kustanay RMZ [mechanical repair plant] and certain other enterprises. Many sowing machines were not repaired on a timely basis at sovkhozes in Dzhetygarinskiy and Naurzumskiy rayons. Up until recently, the farms in Komsomolskiy, Ubaganskiy and Semiozernyy rayons had dragged out the preparation of their seed. Old habits were taking their toll. The inertia of past years had to be overcome and new and leading developments had to be nurtured out on the virgin land fields. Such was the mood which prevailed out on the spring fields in a majority of the oblast's rayons.

Tselinograd Oblast. To obtain no less than 3.2 million tons of grain under all types of weather conditions and under normal conditions -- 3.5-4 million tons -- such are the obligations undertaken by the Tselinograd grain growers.

The leader of a tractor-field crop production brigade at the Obraztsovyy Sovkhoz in Astrakhanskiy Rayon, V. Felde had the following to say regarding this question:

"We can and must increase the production and delivery of grain to the state without increasing the sowing areas. At the present time, with a program aimed at acceleration being pursued, we must not employ antiquated methods."

Similar comments were made by the agronomist, the sovkhoz director and a rank and file machine operator. What do they have in mind? It is no secret that earlier they strived to achieve an increase in grain production through an expansion in the sowing areas. This action was justified up to a certain point. But subsequently an increase in the sowings took place either by means of low productivity lands plowed over for radical improvement in behalf of forage crops or by means of fallow. This can produce only one result -- a one-time success and then only under exceptionally favorable weather conditions. The drought conditions of past years have confirmed the unpromising nature of such practice. However, no such relapses are manifesting themselves at the present time. For example, what can explain the fact that in Kurgaldzhinskiy Rayon 12,000 hectares of non-existent fallow have been added, in Makinskij Rayon -- 9 and in Vishnevskiy Rayon -- 7,000 hectares? Who is guilty of this deception? Nature, as is known, can never deceive. It turns out that short-sighted leaders are deceiving themselves.

Earlier, when occupying fallow, references were usually made at the sovkhozes and kolkhozes to pressure "from above." At the present time, there is no basis for such a claim. A sharp change is taking place throughout the oblast towards

use of the intensive technology and high results from its use are unthinkable in the absence of a reliable field culture. This year the intensive technology will be employed here for growing grain crops on an area of 915,000 hectares. According to computations, this will make it possible to obtain 500,000-600,000 additional tons of grain.

It bears mentioning that the overwhelming majority of farms made better preparations for their sowing campaigns than has been the case in previous years. This applies to the equipment, seed, mineral fertilizers and herbicides. Yes and the personnel have been trained for accomplishing this. This latter fact is of special importance. Indeed, technological discipline commences with the personal discipline of the leaders and specialists and literally each worker. And it has been raised noticeably.

Almost all of the oblast's tractor-field crop production brigades have converted over to use of the collective contract. Many brigade leaders and agronomists have undergone retraining under various instructional forms and have been certified. A seminar was conducted on the eve of the sowing campaign, during which the elements of the intensive technology were worked out once again.

The results are already apparent. Moisture conservation work was organized. The plowing of solonetz soils is in progress, perennial grasses are being replowed and restored where called for by the technological charts and mineral fertilizers have been applied. Compared to last year when anti-wild oats herbicides were applied to 21,000 hectares prior to the beginning of the second 10-day period in May, this year such treatment was carried out on 80,000 hectares.

In discussing the organizational work associated with preparing for the sowing campaign) the 1st deputy chairman of the oblast agroprom /agricultural industry/ Ye.R. Blokh emphasized:

"We tried to arrange the work of an agroprom unit in a manner such that an evaluation would be based not so much upon paper reports but rather upon the true status of affairs. Attempts to embellish the work were rejected decisively."

Such an approach is reassuring -- the Tselinograd workers commenced their sowing work in an organized manner, despite the fact that some farms encountered problems. At the Druzhba Sovkhoz in Kurgaldzhinskiy Rayon, for example, the sowing work had just commenced when tractors began breaking down. As a result, the schedules for the carrying out of moisture conservation measures and for applying mineral fertilizers were dragged out. Similar examples could be cited for other rayons. The degree of responsibility required for the repair of soil cultivation machines was not displayed in Seletinskiy and Marinovskiy rayons, nor for tractors in Alekseyevskiy and Krasnoznamenskiy rayons. Thus the leaders in the mentioned rayons must undertake decisive measures aimed at correcting the mentioned shortcomings on the farms.

North Kazakhstan Oblast. This year the oblast's grain growers have undertaken the obligation of raising the gross production of grain to 2,800,000 tons.

In order to accomplish this, almost 5 quintals more of grain, than the average for the years of the 11th Five-Year Plan, must be obtained from each hectare. The chief reserve for raising the productivity of the grain fields -- the intensive technology. This year it will be introduced into operations on one third of the grain crop areas -- 550,000 hectares. This is 50,000 more hectares than last year.

There is a new development in the organization of labor. Four hundred and eighty four mechanized complexes have been moved out onto the fields and they are all operating on the basis of a collective contract, with the chief final result being the harvest.

Spring was early this year in northern Kazakhstan. The total amount of effective temperatures has already reached the norm. This promoted more rapid biological ripening of the soil. Weeds grew well out on the fields. The farms proceeded in an efficient manner to destroy them. Favorable conditions were created for carrying out the sowing work in a timely and high quality manner.

Thorough preparations were made in all areas for the first spring of the new five-year plan. The tractors and agricultural machines were repaired in a high quality manner. For the most part, first class seed was laid away for fields cultivated using the intensive technology. It is interesting to note that a preference was shown this year for the intensive wheat varieties Omskaya-9, Irtyshanka-10, Zhigulevskaya and Altayka. Saratovskoy-29, which in past years predominated throughout the oblast, was allotted only 38 percent of the overall grain fields. Sufficient quantities of mineral fertilizer are available.

But a great deal certainly depends upon the farmers. The intensive technology is being mastered and yet insufficient experience is available. Thus instruction was provided at an oblast agricultural station for 12,000 machine operators, brigade leaders and agronomists -- for all who are concerned with the cultivation of wheat using the new technology. Agronomic seminars proved to be of a great amount of assistance. It must be confessed that in past years such measures were carried out in an unimaginative manner. In the various rayons, the more experienced agronomists delivered speeches, discussed the peculiarities of the spring period and furnished recommendations. This year a preference was shown for a practical study of the features of the intensive technology and last year's results, shortcomings and areas of neglect were analyzed.

At the Priishimskiy Sovkhoz in Sergeyevskiy Rayon, we had a meeting out on the field with the farm's chief agronomist Fedor Petrovich Batrak. He has been cultivating grain for more than 30 years. From year to year, the sovkhoz has been obtaining stable and high yields. For example, 21.1 quintals of wheat per hectare were obtained here last year from fields cultivated using the intensive technology.

"This method" stated an agronomist, "requires that the machine operators be well trained from an agrotechnical standpoint. There was a time when the chief consideration was to carry out the sowing work rapidly. At the present time, each field requires an individual approach. And each machine operator must perform his tasks in a conscientious manner. Importance is attached to the

preparation of the ground and to ensuring that the fertilizer dosage, the seed norm and the sowing method are selected correctly. All of these are component elements for the harvest.

The Priishimskiy Sovkhoz farmers are confident that they will achieve success, in like manner as thousands of other grain growers throughout the oblast. They performed well in behalf of the new harvest during both the autumn and winter. They plan on performing as well during the sowing period.

The machine operators in Sovetskiy, Sokolovskiy, Timiryazevskiy and other rayons undertook high obligations during worker meetings held in all areas prior to moving out onto the fields. The chief obligation -- to do everything possible in the interest of obtaining a complete and rich harvest.

Kokchetav Oblast. This year the oblast's farmers have vowed to supply the state with not less than 2,244,000 tons of grain. In order to carry out this plan, the productivity of the grain fields, which occupy almost 2 million hectares, must be raised to an average of 14 quintals per hectare.

Success is largely dependent upon the degree of organization of and the manner in which the entire complex of spring field work is carried out. It bears mentioning that thorough preparations were made throughout the oblast for this work. This past autumn, more than 1.5 million hectares were plowed and 618,000 hectares of fallow land prepared. Snow retention work was carried out on the entire sowing area. The moisture conservation work was conducted on a timely basis. Recent rainfall augmented the moisture supplies in the soil.

And now the sowing period has arrived. Out on the wheat fields, the plans call for this work to be completed in 10 days. Just as in past years, emphasis will be placed upon the large-group method of equipment utilization. Almost 3,500 teams have been created -- for preparing the soil and for sowing, for the technical maintenance of units and for cultural-domestic servicing. The majority of the field crop production brigades, on the basis of which the complexes were created, are mastering the collective contract. During the winter, all of the brigade leaders and agronomists undertook special training from the oblast agroprom and RAPO /rayon agroindustrial association/. The intensive technology, which this year is being used for the cultivation of more than a million hectares of wheat, constitutes the foundation for the training program. It is hoped that this technology will raise the productivity of the fields.

The Zlatopolskiy Sovkhoz in Shchuchinskiy Rayon mastered the new technology earlier than other farms and over the past two five-year plans the average annual grain yield amounted to 21.5 quintals per hectare. A creative approach was employed on this farm for carrying out this work. Here the intensive technology was developed so as to conform with each field. High yield varieties were selected. The introduction of the Omskaya-9 and Saratovskaya-46 wheat varieties and the Tselinnyy-5 barley variety furnishes an annual increase in grain of up to 5,000 tons.

Many other farms made fine preparations for using the new technology. For example, only first class seed will be sown at the Chervonnyy Sovkhoz in Kuybyshevskiy Rayon.

This year the task has been assigned throughout the oblast of eliminating those shortcomings which existed in the past. Special attention was given to raising the effectiveness of the mineral fertilizers. The amount of mineral fertilizer available makes it possible to apply it to practically all of the grain fields. However the system for applying it has not been worked out in all areas. This year, mineral fertilizer will be applied in strict conformity with the agrotechnical cartograms.

Strict control has been established over the quality maintained in treating weedy fields with anti-wild oats herbicides. This agricultural measure will for the most part be completed by the time of the mass sowing work.

The oblast agroprom has assigned a very important task -- that of strengthening technological discipline on each farm. Only in this manner will it be possible to achieve intensification of grain production.

Turgay Oblast. Commencing with the first warm days, the Turgay Steppe region was awakened by the rumbling of heavy vehicles which were moved out on the fields for the purpose of carrying out moisture conservation measures. This agricultural measure was carried out throughout the oblast within a matter of days.

"The abundant amount of rainfall which fell recently and a sharp drop in temperature have forced us to remain patient" stated the chief agronomist of the oblast's agroprom N. Nurmukhambetov, "Weeds germinate rapidly in warm weather and must be destroyed. Only after this has been done, can the sowing commence. Thus, even in the southern rayons, we commence sowing wheat no earlier than 17-18 May. And the work must be carried out at a high tempo. The equipment, sowing units, seed, mineral fertilizers and mechanisms for loading them are all fully prepared."

This year, on each farm, a considerable portion of the grain crops will be cultivated using the intensive technology and corn, potatoes and vegetables -- using the industrial and Astrakhan technologies.

Until the sowing periods arrive for the grain crops, the farms are carrying out work on their fodder fields at a maximum tempo. This year the fodder fields in Zhanadalinskiy Rayon have been expanded almost twofold through the development of low productivity lands. This example is being followed by the workers in Amantogayskiy Rayon.

The sowing of forage crops is being carried out in accordance with the accepted program for the field production line during various periods. Grass cuttings will be carried out during July, August and September.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### INTENSIVE TECHNOLOGY FOR SOWING OF ALTAY GRAIN FIELDS

Moscow SELSKAYA ZHIZN in Russian 23 May 86 p 1

Article by A. Torichko, Altay Kray: "Grain Fields of the Altay"

Text A special concern of the farmers is strict observance of the agrotechnical requirements when sowing grain crops using the intensive technology.

Last year the intensive grain fields in the Altay region, which consisted of 1.2 million hectares, did not produce the desired results. Nor did this come as a surprise. A portion of the sowings was carried out not following the best predecessor crop arrangements, second class seed was employed and the technology for applying mineral fertilizer was violated. Frankly speaking, the conservatism of certain farm leaders and specialists was not overcome.

To avoid last year's mistakes and to do everything possible to ensure strict observance of all elements of the intensive technology -- such is the task that has been assigned to the agroprom /agricultural industry/ by the kray's party committee. And this work was launched long before the commencement of field operations. Fallow fields, a portion of which was given start-up dosages of fertilizer in the autumn, were for the most part allocated for "intensive" treatment and measures were undertaken aimed at ensuring that only first class seed of high reproductions of regionalized varieties was placed in the soil. Special attention was given to personnel training. Upon the insistence of the kray party committee, all those associated with farming had to complete a school for leading experience.

An especially large number of mistakes were made last year during the course of applying mineral fertilizer. Having become accustomed to the surface scattering of fertilizer, an overwhelming majority of farms was unable to implant the fertilizer locally at the assigned depth. Today there are almost no problems in this regard. The industrial enterprises and plants for agricultural equipment of the kray's agroprom have produced adequate quantities of various plowshare modifications, with the soil characteristics of the various zones being taken into account.

The Altay's grain growers were fully prepared for the spring of the first year of the 12th Five-Year Plan. But it was dragged out.

In creatively solving the problem, the specialists concentrated their efforts on carrying out moisture conservation work, pre-sowing cultivation of the soil, fertilizer applications and chemical disinfection of the seed and they commenced sowing their sugar beets, sunflowers, peas and forage crop mixtures. And just as soon as the good weather arrived, the mechanized teams of those grain growers who undertook a collective contract and cultivation of all of the wheat moved their units out onto the fields.

The machine operators in the Gorno-Altay Autonomous Oblast set a fine example of highly productive labor. Despite the complicated conditions imposed by mountainous farming, they were the first to complete their sowing of grain crops and they carried out this work during the best periods. The grain growers in Sovetskiy, Smolenskiy, Petropavlovskiy, Zonalniy, Biyskiy, Altayskiy and other rayons in the eastern zone of the kray remained out on the fields for 16-17 hours daily, as they strived to follow all of the technological measures and to carry out the work during the best agrotechnical periods.

On days marked by bad weather, I visited a number of farms in the largest rayon in the Altay Kray -- Shipunovskiy Rayon. More than 111,000 hectares were occupied by wheat alone here, including 58,000 hectares on which the intensive technology was being employed. In order to raise the fertility of the soil, not 40, as was the case last year, but 60 kilograms of mineral fertilizer in active agent were laid away per hectare.

Similar to last year, the principal difficulty continues to be fertilizer applications. The fertilizers for the most part are simply deposited and since they are not protected against rainfall they become damp, lose their friability and clog the plowshares of the grain sowing machines. Alas, industry is still not supplying either plowshares or special equipment for local applications of mineral fertilizer. For example, five types of home-made plowshares are presently undergoing testing at the Kolkhoz imeni Grinko, the Sovkhoz imeni Gorkiy and other farms in Shipunovskiy Rayon.

At the field camp of the Zavety Ilichia Kolkhoz, we came across the unit headed by machine operator N.I. Streltsov. Together with a brigade mechanic M.I. Shaniniy, he attached arrow-shaped plowshares designed by the Altay efficiency expert A. Khomenko to an Szs-2.1 sowing machine. This made it possible to apply fertilizer on three levels: lower, higher and across the sown seed. N.I. Streltsov had just returned from the field. The plowshares did not perform well -- the soil was heavy and did not turn over easily.

"And generally" angrily stated the machine operator, "these plowshares cause us problems. Each one of them is more expensive than a quintal of fine wheat and on my unit alone there are 36 of them."

"Yes, it is an expensive pleasure" agreed the chairman of the kolkhoz G.A. Pokusayev, "We have colossal expenses. And we will continue to have them until such time as industry supplies the grain growers with the required equipment. At the present time, we are once again turning over the ground, releasing moisture, losing time and expending fuel. All operations on the spring fields must be carried out during one pass by a unit! In the interest of relieving the situation somewhat in the spring, a portion of the fertilizer

should be applied in the autumn during cultivation of the fallow fields. But this requires that the fertilizer be available at the time and yet it begins to become available only during the fourth quarter when all work out on the fields has been completed."

One could only agree with the opinion expressed by the chairman. Particularly in view of the fact that today not everyone is aware of the value of the most important element of the intensive technology -- the application of mineral fertilizer at the assigned depth and in the required amount. In some areas, so as not to burden oneself with unnecessary concerns, the leading technology is purposefully violated.

Thus, whereas farms in Shipunovskiy Rayon test different variants in the interest of following all elements of the intensive technology, in the neighboring Krasnoshchekovskiy Rayon, just as was the case last year, some farm leaders chose to violate this technology. Instead of a local application, RUM vehicles scurry smartly over the fields of the kolkhozes imeni Ilich and 40 Let Oktyabrya, spreading mineral fertilizer over the soil's surface. At the Pokrovskiy Sovkhoz, units have been staffed for a local application of fertilizer to the assigned depth but how are they being used? Out on one of the fields, we halted a unit operated by tractor operator V. Akimov and sowing specialist N. Blynskiy, both of whom work on a collective contract basis. Of 96 plowshares, 30 were clogged up by fertilizer and were inoperable. Instead of cleaning them, the guide hoses were removed from the plowshares and the fertilizer was released on the surface. The sovkhoz's chief agronomist was obviously of the opinion that control was no longer required once the land was turned over for operation on a collective contract basis.

There is still one other point that bears mentioning. Some farm leaders, after interpreting in their own manner the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "On Further Improvements in the Economic Mechanism for Management Within the Country's Agroindustrial Complex," began reducing the size of their grain fields and planting forage crops on their arable land.

Quite properly, the krayagroprom did not agree with the plans as presented and recommended that each rayon restore the grain fields to their former borders. But although the decision by the krayagroprom was in keeping with the all-state interests, it nevertheless was very slow in being adopted. Moreover, this occurred at the peak of the sowing period, thus bringing about a reduction in operations in some areas. Where was it possible to obtain the land (indeed, much of it had already been sown), seed, equipment and time needed for mastering the additional areas which were not taken into account in the work plans? This then is what many farm leaders are thinking about today -- the fallow fields intended for use of the intensive technology for cultivating wheat next year are threatened.

Rainfall is hindering the carrying out of field operations. But the Altay grain growers are persistently increasing their sowing rates for the grain crops. This work is already being carried out on the second million hectares and each day the total amount sown increases by 250,000-300,000 hectares. Certainly, autumn provides a summary of the results and imposes demands upon

those who did not carry out their sowing work in a conscientious manner. But at this time it is too late to introduce corrections. Control over the quality of the field work and observance of the intensive technology are required today -- strict and fundamental control.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN CROPS, FIELD WORK PROGRESS IN AKTYUBINSK OBLAST

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 22 May 86 p1

Article by N. Kolomytsev, Aktyubinsk Oblast: "A Time For Concern And A Time For Hope"/

Text The spring field work is nearing completion in Aktyubinsk Oblast. Sowing is being carried out on the last hectares in the northern rayons and in the south the seedlings are already stretching out towards the sun and the forage crop fields are beginning to turn green.

Nature has been very sparing with moisture in these areas. During the past two years, drought conditions prevailed. And this past winter it was possible to carry out snow retention work only on one occasion. But during the spring all measures were undertaken aimed at conserving moisture out on the fields. And the results are now reassuring, especially in the northern rayons.

For grain crops, and this is mainly wheat, barley and millet, 1,850,000 hectares have been made available throughout the oblast and for forage crops -- more than 1,500,000 hectares. The Aktyubinsk workers have vowed to obtain 1,450,000 tons of grain.

The oblast's farmers are well aware that mistakes committed in the spring are very costly in the autumn. Thus the majority of farms prepared thoroughly for their sowing campaign. Roughly 1,186,000 tons of organic fertilizer were moved out onto the fields, an amount which surpassed last year's indicator by 200,000 tons.

A complicated situation developed this year in the oblast in connection with the seed fund. The two years of drought conditions did not pass without a trace. As the saying goes, the southern rayons suffered. But assistance was provided by the northern rayons. This made it possible to ensure that all of the farms were supplied almost completely with quality standardized seed, of which 70 percent consisted of 1st and 2d class seed.

But the problem continues. A difficult situation has been avoided today, but what about tomorrow? Who can say that within the next few years another drought will not thrust itself upon the oblast? Some input is required here by the seed-producing farms. And there are not less than 23 of them in the oblast. But weak technical equipping still prevents them from carrying out their

mission. In addition, many farms overlooked the best periods for disinfecting the seed and instead they carried out the chemical treatment work only immediately prior to the commencement of the sowing operations and this did not guarantee complete destruction of the enemy of grain crops -- blight.

Nor is the situation any better with regard to the storage of mineral fertilizers. Only a few farms possess warehouses for such storage.

This year the oblast has undertaken the responsibility of obtaining 390,500 tons of grain from fields cultivated using the intensive technology. Their areas have been increased by one third. We are nearing the optimum figure -- 425,000 hectares -- and fallow fields. Compared to 1982 when it amounted to 149,000 hectares, 413,000 hectares have been allocated for this year's crops. True, one sixth of this figure consists of radically improved land and not arable land.

The intensive technology requires strict observance of all agrotechnical measures. And this applies first of all to the sowing work. The farmers in Alginskiy, Martuksiy and Khobdinskiy rayons clearly overlooked the best periods for carrying out their sowing operations. But the sowing rates for the oblast as a whole exceed those for last year. And this has been promoted by the operational repair servicing of equipment under field conditions. Here there are more than 600 mobile workshops and technical servicing units in operation and highly skilled expert-trouble shooters have undergone training on all of the farms.

The equipment out on the fields in Aktyubinskiy Rayon is being operated with no idle time. This year's plan calls for 61,000 tons of grain to be sold to the state, including 19,000 tons of strong and durum varieties of wheat. One fourth of the grain fields is being cultivated using the intensive technology.

The 40 Let Kazakhskoy SSR Sovkhoz is the second largest grain farm in the rayon. This year it will sell 11,000 tons of grain to the state. But livestock husbandry is not being overlooked here. The 40 Let Kazakhskoy SSR Sovkhoz initiated a rayon competition to accumulate a one and a half year supply of feed.

At the entrance to Petrovka -- the farm's central farmstead -- I glanced at my watch. I had guessed right; it was recess time.

But a "Uazik" vehicle driven by the director Anton Georgiyevich Shtayn accompanied us to the office. But the sowing work should not be carried out in a hasty manner, despite the fact that during the director's discussion with specialists it was felt that an argument ensued concerning time: rates, rates and rates!

"The sovkhoz has converted over completely to the collective contract" stated Anton Georgiyevich, as he began our discussion, having just completed some urgent work, "The sowing work is presently being carried out by three such brigades."

"You were one of the first in the oblast to employ the check system of accounting. What has this done for the farm?"

It has obviously been profitable. Everyone is performing in a more thrifty and zealous manner. Earlier the situation was as follows: a tractor operator would carry out his work on a farm, for example, in four hours and he would nevertheless be credited with seven hours. Today this is no longer the case. The brigade's money is no longer being thrown to the wind. You receive payment only for the hours worked. A rather interesting development is the fact that we can now get by with fewer items of equipment. Last year the preserved pool of tractors, mechanisms and units exceeded the total amount by 40,000 rubles. This year a portion of this equipment was sold to other farms and the money earned was used to purchase other needed items of equipment.

This then represents a thrifty approach. Nor is the moral aspect of the work overlooked on the farm. Here the results of the competition are summarized daily and in honor of the winners a flag of labor glory is raised and express-telegrams released. Everyone in the rural areas is familiar with the achievements of the leading workers. This is pleasant information for everybody. Yes and the payment for shock labor is appropriate. Thus, the personnel strive to do well.

A red flag flies outside the window.

"Yesterday the best brigade was the one headed by Viktor Gavrilovich Glushchenko" explained Anton Georgiyevich, having noticed my glance out the window, "They are presently out in the field and you can talk with them there."

The field was about 12 kilometers distant. And yellow dots could be seen in the distance -- tractors. They were operating in a circle. It was too far to go around them and so we decided to wait. We scanned the situation. On the right side of the road there was a dense field of winter rye. I estimated that with good weather a yield of 15 quintals could be obtained.

"This rye belongs to a neighboring sovkhoz" explained tractor operator Viktor Nesmashnyy as he jumped down from the running board, "And ours will be even better."

A red flag was flying from Nesmashnyy's tractor. Yesterday he was the best in the best brigade. And today he is thinking about doing at least as much.

"Where can you find the brigade leader? He is over there, by the spring" Viktor pointed to a barely visible clump of trees, "Do not forget to try our water. You won't be sorry."

We arrived in time. Viktor Gavrilovich Glushchenko had come to Petrovka on urgent business.

"We expect to complete the sowing in 12 days" stated the brigade leader, "Rainfall has delayed us somewhat; two days were lost because of this. But we have already made up the lost time. Kabylbay Mukhambetkaliyevich Bekniyazov, Aleksandr Andreyevich Bunyak, Ivan Emilyevich Vukkert and Vladimir Fedorovich Nebunof are all working considerably in excess of the norm during their work shift. Thus it should be recorded that all are performing in an excellent manner. Deserving of special mention is expert-trouble shooter Feliks

Livinshteyn. He has earned it and, in addition, today is a holiday for him -- his wife has given birth to a daughter.

"This is a fine sign" I commented.

"Do you think that our fields will furnish increased yields?" asked Viktor Gavrilovich, smiling, "All we have to do is gather in the complete harvest."

Before departing the brigade, I did not forget to sample the spring water. And it can be truly said that it was just as tasty as the grain grown in these steppe expanses. Difficult grain. But nevertheless more valuable and more desired.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

DIFFICULT SOWING CONDITIONS IN KUSTANAY OBLAST DISCUSSED

Moscow SELSKAYA ZHIZN in Russian 25 May 86 p 1

[Untitled article by I. Puzyrev, Kustanay Oblast]

Excerpt This year the farmers in the eastern regions of the country are carrying out their sowing work under difficult weather conditions. Many farms in Kustanay Oblast are setting a fine example in skilful maneuvering out on the spring fields. However, as yet not all of the collectives of grain growers are imbued with a feeling of high responsibility for the fate of the harvest for the first year of the new five-year plan.

The uchkhоз training farm, similar to all farms in Kustanayskiy Rayon, had converted over to operations based upon an open contract. Today the earnings of a rank and file machine operator, a brigade leader or the director of the farm are directly dependent upon the final results. Cost accounting has raised the discipline of each farmer and the responsibility of each specialist. All are aware of what is expected of them and they are striving to carry out their work in a better manner.

Last year the highest productivities were achieved in Fedorovskiy Rayon by the Put K Kommunizmu Kolkhoz (22.7 quintals per hectare) and the Kostrikovskiy Sovkhoz -- 20 quintals. They have become fine schools for leading experience. Others are now learning from their example how to work, how to utilize material and human resources in a zealous manner, how to increase grain production and how to lower the production costs for grain.

The 1st secretary of the republic's CPSU committee, Hero of Socialist Labor B. Klimov, emphasized that the rayon party committee is no longer interfering in the daily work of the RAPO's rayon agroindustrial associations, as was often the case in the past, nor is it trying to undermine the specialists. To the contrary, they have been provided with all of the conditions required for displaying initiative and for employing their knowledge and skill in a creative manner.

"We are concentrating our efforts on personnel work" he stated, "The principal sectors are headed by competent individuals, communists. We are striving to provide the party groups with maximum assistance, to channel their activities

along the right path and to emphasize all elements of ideological support for the successful conduct of the work. Party control is being increased in all areas.

The largest field of durum wheat in the oblast -- 24 percent of the entire grain crop area -- is found in this rayon. The cultivation of this field has its own particular characteristics, which at times intimidate the agronomists. Nevertheless, this cultivation is profitable. Thus, influenced by the workers in Fedorovskiy Rayon, farms in other rayons have become convinced that durum wheat, when properly tended, is capable of furnishing high yields and a good income. For the oblast as a whole, the areas allocated for durum wheat have been increased to 324,000 hectares, that is, an effort is being made to fulfill and overfulfill the production plan for the highest quality wheat grain.

Local conditions and accumulated experience are being taken into account in each zone and the work is being carried out based upon such conditions and experience. In Borovskiy Rayon, for example, all of the farms are following the initiative of the RAPO and carrying out crossed sowings. This is also a sign of the current spring period. There is still another: wheat will be cultivated on 1,150,000 hectares using the intensive technology. The farms have prepared their sowing equipment better than in the past, they have obtained more mineral fertilizers and herbicides and they have converted the work of the farmers completely over to the collective contract.

However, reliable preparations were not made for the sowing campaign in all areas. Unfortunately, neither the entire tractor pool nor all of the machines at the sovkhozes in Naurzumskiy, Karasuskiy, Leninskiy or Dzhetygarinskij rayons were deemed suitable for operations. Nor was this the very first time that this situation had developed here. Each year the arrival of the sowing period is accompanied by thunder and lightning and valuable time has already been lost.

During an oblast conference devoted to accelerating farming intensification, and particularly grain production, it was noted that seed preparation work has still not been completed on farms in Semiozernyy, Komsomolskiy and Ubaganskiy rayons. True, one does not know which is more surprising: the sluggishness of the farm and RAPO leaders or the slowness in responding to the alarm signal! The conference was held at the beginning of May, when most farms had already commenced their field work and only a few days remained prior to sowing. Just as in the past, no success was realized this year in reducing the severity of the problem of a shortage of machine operators. On a number of farms, especially those located in the oblast's southern rayons, use had to be made of assistance furnished by tractor operators from cities. And indeed a machine operator is the chief master of the land. For he is the one who is primarily responsible for controlling its fertility.

7026  
CSO: 1824/346

**FIELD WORK, GRAIN CROP PROGRESS IN NOVOSIBIRSK OBLAST**

Moscow SELSKAYA ZHIZN in Russian 31 May 86 p 1

[Article by P. Chernov, SELSKAYA ZHIZN correspondent, Novosibirsk Oblast]

Excerpts In many regions of Siberia, the sowing work is being carried out under difficult weather conditions. In order to take advantage of the best periods, the farms in Novosibirsk and Omsk oblasts are employing flexible maneuvering of their equipment and human resources. Special concern and attention have been given to the intensive sowings of the chief good crop - wheat.

The field workers are devoting a maximum amount of effort directed towards obtaining high yields from each hectare.

However the efforts of local farmers are not always being matched by specific assistance from their partners in the agroindustrial complex.

The field work is being carried out at high rates at the Shuryginskiy, Karasevskiy and Medvedskiy sovkhozes and on other farms in Cherepanovskiy Rayon. Here the wheat was sown during five working days. The sowing of grain crops is being completed on fields in Iskitimskiy, Toguchinskiy, Kochkovskiy, Tatarskiy, Barabinskiy and other rayons throughout the oblast.

At the same time, under roughly the same weather conditions, the sowing work is being carried out slowly on fields in Moshkovskiy, Maslyaninskiy, Chulymskiy and some other rayons.

The late spring imposed very stern requirements upon the farmers. Importance is being attached to employing leading work methods. Unfortunately, the machines are not being used in a highly productive manner in all areas. In Maslyaninskiy Rayon, the daily increase in sown areas does not even exceed 1,500 hectares on some days.

There are also some other vexing areas of neglect. The majority of the kolkhozes and sovkhozes are applying mineral fertilizers locally using S2S-2.1 sowing machines and yet there are also some who are carrying out this work haphazardly, by eye, using a shallow plow and in a wasteful manner. Spring soil inspections for nitrate nitrogen content have not been carried out in all areas.

The overall desire is to create the conditions required for obtaining a high yield. All useful developments are being employed. For treating the wheat seed, extensive use is now being made of incrustation and dispatcher control over the course of this work has been introduced into operations. Models of network graphs have been developed which are effective within the limits of the optimum periods called for by a scientifically sound farming system for each farm and rayon.

The implementation of existing plans will enable the oblast's farmers to carry out their obligations -- from sowings grown using the intensive technology, to obtain not less than 560,000 additional tons of grain. This is a considerable amount.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

OMSK OBLAST USE OF INTENSIVE TECHNOLOGY FOR GRAIN CROPS

Moscow SELSKAYA ZHIZN in Russian 31 May 86 p 1

Article by M. Silvanovich, Omsk Oblast: "Using the Intensive Technology"

Text Following the first year of operation of the intensive technology, there have been many positive responses and promising prospects for its future use. At the same time, it bears mentioning that the Omsk farmers are displaying a great amount of caution and for lack of experience are reluctant to accept a risk. Let us take for example the technological track. It was only last year that the task was assigned -- to carry out an experimental check on its effectiveness in all of the rayons. Only some farms coped with this task; from the very beginning, all of the remaining ones acted as though they had not heard the task expressed correctly. A 100 hectare plot at the Omskoye OPKh /experimental model farm/ was not the only one throughout the entire oblast that revealed the following: without a track, each hectare worked using the intensive technology furnished 24 quintals of wheat grain and with a track -- 29 quintals. The difference clearly justifies the expenses for use of the innovation. This year the sowing work was carried out with a track in a majority of the rayons and on dozens of farms. But of 1,100,000 hectares of wheat sowings, cultivated using the intensive technology, a track was employed on only 37,000 hectares.

Who is to be blamed for such sluggishness in the reorganization work? And is it proper to search immediately for the guilty parties at a particular sovkhoz, kolkhoz or rayon, despite the fact that they are in fact present? According to information supplied by agroprom, last year, based upon tissue diagnostics, a foliar top dressing should have been applied to 157,000 hectares of wheat. Aircraft were employed for applying a top dressing to one half of this area. A portion of the crop was lost owing to the fact that only one half of the work volume was carried out. Certainly, a track would have helped. But for its effective use, wheeled tractors were required. Today this constitutes a strictly limited position in Siberian agricultural production. Work carried out in a track, as ill luck would have it, coincides with the procurement of feed where, as is well known, it is also impossible to do without wheeled tractors.

This then serves as additional proof that the term intensive technology is not simply words found in plans, schedules or accounts. It is a complicated complex of problems.

I have before me a schedule for the delivery of mineral fertilizers. For all types of this fertilizer, the plans call for deliveries to be carried out during the first and fourth quarters. In their actions, the planning organs and suppliers are not following the requirements of science. As a result, during the spring ample amounts are available but during the summer -- for working the fallow and applying top dressings to the plants -- nothing.

This spring the weather conditions compressed the mainspring of time to the maximum possible degree. It had to be unwound more rapidly than usual with an accelerated rhythm being assigned to all of the mechanisms. In a realistic evaluation of its potential, agroprom carried out a certain redistribution of the wheat areas in terms of the intensive technology, with the existing forces and conditions being taken into account. The farmers in Novovarshavskiy, Russko-Polyanskiy, Cherlakskiy, Odesskiy, Poltavskiy, Tavricheskiy and other rayons accepted the additional workload as being quite proper. Over the course of one day, 150,000-160,000 hectares were sown throughout the oblast. These were fine rates when one takes into account that it rained from time to time.

Special importance is being attached this year to the question of early ripening varieties. They are already being discussed from the standpoint of the intensive technology. An increase in the fertilizer dosages and the use of other agricultural methods are changing noticeably the customary biology of the plants. In short, the plant breeders are under a greater obligation to the farmers. The system of state strain testing must undergo a radical reorganization. During an evaluation of varieties, their technological characteristics and responsiveness to particular intensification parameters are considered to only a weak degree.

This year the Omsk farms must sell 1.5 million tons of high quality grain to the state. Each day and each hour of spring are subordinated to completing this task. A certain delay in carrying out the sowing schedules is being compensated by an abundance of moisture and by the onset of summer heat over the past few days. The healthy seedlings have already begun to turn green out on the fields.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROBLEMS IN GRAIN PRODUCTION IN ORENBURG OBLAST DESCRIBED

Moscow SELSKAYA ZHIZN in Russian 18 Mar 86 p 1

[Article by I. Gavrilenko, Orenburg Oblast: "Formal Approach to Intensification"]

[Excerpts] In a number of rayons of Orenburg Oblast responsibility for adhering to technological discipline in grain production has been decreased; preparations for sowing have not been completed.

Concern for the land is repaid a hundredfold. But what concern can we speak of if, for example, in Orenburgskiy Rayon during the last 3 years with a general growth in capital investments into production the share of resources directed at the development of farming has decreased sharply. In enterprises such as Orenburgskiy Sovkhoz, Rossiya Kolkhoz and several others this share equalled only 7-11 percent. In other words, all concern about grain has been reduced to just sowing and harvesting. Many of the most important agricultural methods which increase yield have been discarded in this technology.

Unfortunately, this type of approach to solving the grain problem did not enable us to fully eliminate it in the oblast as a whole although the area of "intensive" fields has already reached slightly less than 4 million hectares. However, not a single rayon was able to achieve a programmed harvest. Formalism and violations of technological discipline killed the matter. Thus, not the best seed was placed into the ground, the doses and schedules for applying fertilizer were violated, and the use of growth substances and pesticides has been underestimated. Have things changed for the better this year?

There is no doubt that things have changed for the better. For example, a noticeable step has been taken to make intensive technology more precise for the conditions of Orenburg Oblast. Measures have been taken to acquaint a wide range of people involved in grain production with this technology.

Now almost every director of a mechanized link who has been assigned the cultivation of grain according to intensive technology has a work book which lists the variety and sowing qualities of seed, the agronomic survey of

fields, moisture reserves, proposed expenditures, fertilizers and resources for plant protection.

A seed fund has been prepared for the harvest. Suffice it to say that 78 percent of the seed belongs to first class. In Belyayevskiy, Kuvandykskiy, Perevolotskiy and several other rayons even 100 percent of the seed is first class. In many kolkhozes and sovkhozes more mineral fertilizer has been accumulated than before and in a wider assortment. Corrections have been made in the cost accounting goals of grain farming collectives. In Kolkhoz imeni Sverdlov of Akbulakskiy Rayon, Kolkhoz imeni Karl Marx of Buzulukskiy Rayon and Kolkhoz imeni Lenin of Kurmanayevskiy Rayon farmers are moving toward sowing fully armed.

However, acquaintance with the situation at an oblast level has given rise to many questions. To investigate them it was necessary to turn to the oblast agroindustrial committee, headed by A. S. Zelepukhin, candidate of agricultural sciences and former director of the Yuzhnyy Ural NPO [Scientific-Production Association].

I tried to see the chairman of the committee or at least one of his deputies several times. However, nothing came of it. The comrades I was seeking were not there and the explanations were stereotypical: "He is defending reports." As it turned out, the long reports devoted to intensive technologies for cultivating grains were being defended by RAPO [Rayon Agroindustrial Association] chairmen who came from rayons. I was even able to learn that V. Boldyrev of Akbulak was most successful in his defense but that N. Alekseyev of Sol-Iletsk and G. Mardeyev of Buguruslana "floundered."

Giving the measure implemented by the agroindustrial association its due, I found it necessary to postpone the planned meetings and to travel directly to enterprises. The unexpected began immediately. In Novosergiyevskiy Rayon, which is among those with all first-class seed, in Komsomolskiy Kolkhoz it suddenly was learned that Kharkovskaya-46 wheat had been prepared in the amount of 3,000 tons for fields employing intensive technology, but that it was of the fourth reproduction and second class. In other words, the seed was in the very same condition as that used last year when on "intensive" fields yield was 2.5 quintals less than planned.

Does this mean that last year's lesson did not teach anything? Obviously this is so, judging by the measures planned here for the spring. It is planned to apply a portion of the fertilizer prior to sowing using SZS-2.2 sowers equipped with special "Bashkir" plowshares. After that sowing units are to enter the fields twice more since it is planned to carry out sowing operations crosswise--first stubble sowers will cross the fields, followed by row sowers traveling diagonally across. For those to whom this is unclear, due to the different equipment systems the seed will lie in the soil at two levels and grains will be at two levels in the best of cases or at multiple levels in the worst. There was no point in learning the further "strategy" of the senior kolkhoz agronomist, I. Tereshchenko--two such "minuses" are capable of reducing all intensive technology to zero.

But perhaps this discovery was an unusual case in the practice of the Sovosertiyevskoye RAPO? Hardly. In neighboring Pamyat Lenina Kolkhoz, by coincidence located in the rayon center, the picture was repeated. There also preparations were being made to sow Kharkovskaya-46 using seed with a germination capacity of 85 percent and to send sowers into the fields in the same order as in Komsomolskiy Kolkhoz. From the report of agronomist V. Polishchuk, which was to be used in defense at the next RAPO meeting, we learned that last year the fields utilizing intensive technology in the enterprise yielded 9.4 quintals of grain per hectare, and this year a yield of 16 quintals of spring crops and 18 of winter crops is planned. This means that here plans are being made to "storm" the limits which have been achieved in the past using the most usual technologies.

Traveling with me to enterprises was the senior agronomist of Novosergiyevskoye RAPO, B. Borisov. It seems that the facts uncovered in the enterprises were very unexpected for him as well. A thought crossed my mind: Wouldn't it be better for directors from oblast and rayon links of the agroindustrial association to travel to enterprises and to show an interest in what was actually happening there instead of sitting for hours in offices pouring over reports which should have been done earlier. It would certainly be more useful to do this. After all, this is the eve of sowing operations.

Actually, the sun is getting warmer and the first streams have begun moving along their beds. But many enterprises still do not have the necessary amounts of fertilizer. Of 54,000 tons of mineral fertilizer (active substance), only 31,000 had arrived in the oblast as of the second 10-day period of March. The situation is worse than at the same time last year. A large amount of mineral fertilizer has not been received in Aleksandrovskiy, Asekeyevskiy, Ilekskiy and Sol-Iletskiy rayons, for example. The situation regarding the assortment of fertilizer is not good. The shortage of potassium and nitrogen fertilizers is especially great. After all, on fields employing intensive technology fertilizers must be utilized only in an integrated manner. Has this been considered in the agroprom [agroindustrial committee]?

Probably not. In that same Novosergiyevskiy Rayon tanks were prepared for liquid fertilizers and everyone relaxed although not even a liter of the promised chemicals was poured into these tanks. Meanwhile, tricalcium phosphate, which was not ordered by anyone and which does not encourage productivity to a large degree, has been arriving. No one is making demands of suppliers although this is not the first year that the enterprises of the Bashkir city of Meleuz and the Voronezh city of Rossosh have been known for their lack of discipline. Once again they owe Orenburg Oblast thousands of tons of fertilizer.

Another aspect of the problem demands attention. Kolkhozes and sovkhozes are buying more and more very expensive herbicides, seed disinfectants and other chemicals. However, these are not always utilized efficiently and in the proper doses; their use is behind schedule. The reason for this is the acute shortage of special equipment. Last year oblast enterprises experienced a shortage of about 800 sprayers, 500 dissolving units and over 180 seed disinfection units. Has anything changed since then? Insignificantly.

In kolkhozes and sovkhozes an attempt is being made to make up for the shortage of the necessary equipment through the efforts of innovators in repair shops. In Novosergiyevskiy Rayon 33 sprayers, 1,000 harrows with attachments made from segments from harvesters, 11 dissolving units and much more totalling almost 300,000 rubles are now being prepared. This one fact demonstrates the indebtedness of industrial enterprises to the village. But at the same time we cannot close our eyes to the fact that for the current year there was not a single order for the aforementioned equipment from the RAPO's of Grachevskiy, Oktyabrskiy, Ponomarevskiy and many other rayons.

All of these errors can bring losses to intensive technologies and nullify the plans of many kolkhozes and sovkhozes to increase gross grain yield. The party obkom must be more demanding. Late last year the buro discussed the problem of organizational and political work of the Novosergiyevskiy Rayon party committee as regards the development of grain production. The degree of "change" that has occurred in the rayon after the discussion can be evaluated according to what has been said above.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

KAZAKHSTAN GRAIN HARVEST--The period of tense work has arrived in the Kazakhstan virgin land -- the republic's chief grain field and its granary. During any year, be it a dry or abundant one, we monitor the events taking place in the virgin land with hope and fixed attention. For it is here that the fate of the Kazakhstan grain harvest is decided. During the 12th Five-Year Plan, the republic's grain production must be raised to 30-31 million tons. The principal increase in the Kazakhstan harvest is expected from farms in the virgin land oblasts. This task was assigned to our grain growers by the 16th Congress of the Communist Party of Kazakhstan. The first year of the five-year plan must be a good harvest year. The mass sowing of grain crops is commencing today in the virgin land. In the brief periods allotted by the agricultural practices, they must be planted on an area in excess of 15 million hectares. Difficult and tense work is involved. We call upon the farmers to carry out this work. It is aimed at achieving a large harvest for the republic and the country. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 May 86 p 1/ 7026

WORK IN TWO SHIFTS--Turgay Oblast--The machine operators in the southern rayons were the first in the oblast to move their sowing units out onto the fields. They have already planted grain crops on an area in excess of 20,000 hectares. In the sowing of spring crops, they were followed by farms in other rayons. Commencing with the very first days, the sovkhozes and kolkhozes in Yesilskiy Rayon, the oblast's largest rayon, have been carrying out their work rapidly and in a high quality manner. The seed has already been placed in the soil on 18,000 hectares of fields. Mineral fertilizer is being applied simultaneously with the sowing work. Adequate quantities of this fertilizer were laid away for this year. At the Angarskiy Sovkhoz in Arkalykskiy Rayon, all four of the tractor-field crop production brigades are carrying out their work in two shifts. The farm's workers intend to obtain 16-20 quintals of grain from each hectare of intensive field. /by M. Murzaguzhinov/ [Excerpts] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 21 May 86 p 1/ 7026

FOR POWERFUL TRACTORS--Tselinograd(KazTAG)--Grouping of pull-type machines for use with powerful tractors has been augmented substantially. The collective of the Tselinogradselmash Association has supplied the country's farmers with the first batch of heavy sectional cultivators. The operating width of the new unit is 10 meters -- almost three times larger than that of its predecessor unit. The machine builders equipped the cultivator with a bar device for the

removal of stubble and this is facilitating substantially the carrying out of subsequent agricultural operations. [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 22 May 86 p 1/ 7026

INTENSIVE TECHNOLOGY--Karaganda Oblast--Comments by the chairman of the Karaganda Oblast Agroindustrial Committee V.N. Mirza: Experience has shown that use of the intensive technology produces tremendous results in farming. Last year, a dry one, the average yield at the Sovkhoz imeni Vilgelm Pik in Osakarovskiy Rayon exceeded 13 quintals per hectare. This result was realized only as a result of the intensive fields, on which the grain yield reached 18 quintals. This year the oblast's grain growers must cultivate 150,000 hectares using the intensive technology. On a majority of the farms, pre-sowing working of the soil was carried out in a timely manner and good seed, fertilizer and plant protection agents were made ready for use. In the opinion of the agronomic service, use of the intensive technology throughout the oblast will make it possible to obtain a stable wheat yield of up to 18 quintals following fallow and when sown as the second crop following fallow -- up to 16 quintals per hectare. A chief concern is to ensure that discipline is observed. This year, in Nurinskiy Rayon, a leading grain rayon, more than 54,500 hectares of wheat will be cultivated on 11 farms using the intensive technology; this represents more than one third of the oblast's intensive fields. The training of machine operators and specialists was carried out during the winter. Sixty nine mechanized detachments were organized for the spring field work period. It bears mentioning that for the purpose of carrying out the entire complex of operations using the intensive technology, the workers were supplied with the needed fertilizers and principal items of equipment. Nevertheless, some of the machines and units are in short supply -- machine building is still under an obligation to the agricultural workers. Thus many items of equipment must be produced at the sites. The Karaganda workers initiated a republic competition for the organized carrying out of the spring field work. The present period is a busy one. The crops for the first year of the five-year plan are being planted out on the fields. We are confident that the harvest will be a worthy one. The effort being put forth by the grain growers serves as a guarantee that this will be the case. [Excerpts] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 May 86 p 1/ 7026

SUBBOTNIK FOR FIELD WORK--Orenburg--Most of the workers of kolkhozes and sovkhozes in Orenburg Oblast and the workers of other enterprises which are subordinate to the oblast agroindustrial committee will be working in the fields on the day of the communist subbotnik. Abundant sunshine and warm rains which have fallen in the region have accelerated the maturation of the soil. Dozens of units are already working to retain moisture in the soil in Akbulakskiy, Belyayevskiy, Ilekskiy, and Sol-Iletskiy rayons. On the day of the "red Saturday" seed will be placed into the soil on hundreds of hectares in other places. In Orenburg Oblast as a whole over 1 million people will participate in the subbotnik. [By I. Gavrilenko] [Text] [Moscow SELSKAYA ZHIZN 19 Apr 86 p 1] 8228

COLLECTIVE CONTRACTS--Orenburg--The transition of all grain-farming links and brigades to collective contracts with payment of wages according to end results has enabled Orenburg Oblast to carry out sowing operations in an organized and high-quality manner. Many collectives are working according to the principle of cost accounting. About 500,000 hectares of grains are now being cultivated according to intensive technology. The experience of last year attests to the fact that even under unfavorable weather conditions such crops contribute to an increase of 10-12 quintals in yield per hectare. Under the conditions of Orenburg Oblast this means hundreds of thousands of tons of grain. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 25 Apr 86 p 1] 8228

CONTRACTUAL METHOD--Omsk, 17 May (TASS) Good weather arriving, the farmers in Omsk Oblast have commenced sowing their grain crops. The Kolkhoz imeni Karl Marx was one of the first to move its sowing equipment out onto the fields. The collectives which operate on the basis of a contract are utilizing fully the entire light portion of the day. Spring wheat is now being grown throughout the oblast on an area of 1,100,000 hectares. [Text] [Moscow SELSKAYA ZHIZN in Russian 18 May 86 p 1] 7026

MASS SOWING OF WHEAT--Yesterday the machine operators in Novosibirsk Oblast commenced their mass sowing of wheat. The grain growers are employing the intensive technology on 700,000 hectares. Contractual collectives have been tasked with introducing it into operations. [Text] [Moscow TRUD in Russian 21 May 86 p 1] 7026

MANEUVERING OF EQUIPMENT--Omsk, 22 May--A cold spring and thereafter inclement weather have slowed down considerably the course of spring work out on the fields. Commencing with the very first good days, the machine operators made a good start. All of the human and technical resources were mobilized. The sowing work was started on a selective basis. In a number of rayons, owing to a lack of good roads, difficulties were encountered in attempting to use seed trucks -- they had to be replaced by small tractor-drawn carts. The workers in Nazyvayevskiy, Nizhneomskiy and other rayons are skilfully maneuvering their equipment and carrying out their work in a high quality manner. [by correspondent M. Silvanovich] [Text] [Moscow SELSKAYA ZHIZN in Russian 23 May 86 p 1] 7026

SNOW RETENTION WORK--Barnaul, 20 Jan (TASS) Altay grain growers are carrying out snow retention work on their third million hectares. Large mechanized teams are carrying out snow plowing work throughout the entire light portion of the day. In the exposed and windy steppe region, a preference is being shown for the ganging of heavy rollers. The machine operators in Khabarskiy, Shipunovskiy, Kamenskiy and Zavyalovskiy rayons were the first in the kray to carry out the ridging of snow embankments. [Text] [Moscow SELSKAYA ZHIZN in Russian 21 Jan 86 p 1] 7026

MOISTURE CONSERVATION--Barnaul, 15 Feb (TASS)--Formation of sowing complexes has been completed at all kolkhozes and sovkhozes in the Altay Kray. The Altay machine operators have commenced snow retention work on their fourth million hectares of fields. On the communist subbotnik day, all of them worked in behalf of conserving in the use of fuel. This became possible owing to the

extensive dissemination throughout the kray of the operational experience of the brigade headed by Hero of Socialist Labor P. Pechenkin at the Kolkhoz imeni Frunze in Yegoryevskiy Rayon. This leading collective initiated the movement to achieve economies and thrift. /Text/ /Moscow SELSKAYA ZHIZN in Russian 16 Feb 86 p 1/ 7026

SOWING PREPARATIONS--Barnaul--The formation of sowing complexes has been completed at all kolkhozes and sovkhozes in the Altay Kray. More than 1,500 will be moved out onto the kray's fields. The complexes have been assigned approximately 5 million hectares of arable land and the required assortment of machines and units. The Altay machine operators have prepared their tractor pool and all of their sowing and soil cultivation equipment for the sowing campaign. The intensive technology will be employed for growing spring wheat on 1,200,000 hectares. /Text/ /Moscow SELSKAYA ZHIZN in Russian 9 Apr 86 p 3/ 7026

RETAINING MOISTURE--Barnaul, 26 Apr--This year grain crops will be grown in the Altay Kray on more than 1,200,000 hectares using the intensive technology -- this will consist mainly of fallow fields and furrow slice inversion for perennial grasses. With the arrival of spring, work commenced out on the fields in connection with the retention of thaw waters. The farm specialists assigned the task of doing everything possible to ensure that the water does not flow off the fields into lowlands, forests or gullies. Instead it should be absorbed into the soil and serve as the basis for obtaining high yields. Dozens of units are operating at the present time on slopes adjoining the Ob River in Kamenskiy Rayon. The machine operators at the Rybinskiy, Plotnikovskiy, Leninskaya Iskra and Kamenskiy sovkhozes blocked the path for the runoff of spring waters on more than 2,000 hectares. And for the rayon as a whole, the thaw waters were retained on dozens of thousands of hectares, with extensive use being made of moisture conserving agricultural methods. /by A. Torichko/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 27 Apr 86 p 1/ 7026

SELECTIVE HARROWING--Barnaul, 28 Apr--April is removing the last snow from the fields in the Altay Kray. On hundreds of thousands of hectares, the land has already acquired its natural black color. And although the principal tracts are still not suitable, the kray's grain growers have commenced the selective harrowing of perennial grasses, fallow and autumn plowed land, for the purpose of retaining moisture. The machine operators in the Kulundinskaya Steppe region were the first to commence this work. The non-schedule teams in Slavgorodskiy, Mikhaylovskiy, Uglovskiy, Kulundinskiy and other rayons in the kray's western zone moved dozens of tractors out onto the fields on a daily basis. In all, 40,000 tractors belonging to 1,634 mechanized sowing complexes will be in operation out on the spring fields in the Altay Kray this year. Special attention will be given to the intensive fields. More than 1,200,000 hectares will be grown in spring wheat. /by A. Torichko/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 28 Apr 86 p 1/ 7026

ALTAY KRAY SOWING COMMENCES Barnaul, Sunny weather prevails in Altay Kray. The machine operators in the eastern and piedmont regions, where the land "ripens" earlier than in the Kulundinskaya Steppe region, are taking advantage of this fact. Today the machine operators of many kolkhozes and sovkhozes throughout the kray moved their sowing equipment out onto the fields. The farmers of the

Kubanka Sovkhoz were the first in Kalmanskiy Rayon to commence their sowing operations. Using the double-shift cycle method, 11 sowing units are in operation on the farm's fields. Special attention is being given to the intensive fields. /Text/ /Moscow PRAVDA in Russian 11 May 86 p 1/ 7026

SPRING WHEAT SOWING COMPLETED--Barnaul--Yesterday the Altay farmers completed their sowing of spring wheat on the entire area. The kray's chief food crop has been planted on 2.8 million hectares. The intensive fields consist of 1,200,000 hectares, from which the farmers intend to obtain 960,000 additional tons of grain. /Text/ /Moscow TRUD in Russian 4 Jun 86 p 1/ 7026

ALTAY SOWING NEARS COMPLETION--Barnaul, 29 May--The sowing of spring grain crops in the Altay Kray is nearing completion. Yesterday the ALTAYSKAYA PRAVDA newspaper issued reports on the successes achieved by individual farms and today the management of the kray's agroprom /agricultural industry/ is congratulating the grain growers in Biyskiy, Zonalniy, Sovetskiy, Smolenskiy, Altayskiy and other rayons in the kray's eastern zone on the completion of the grain crop sowing operations. Rainfall is introducing corrections into the work schedules for the Altay fields and yet the farmers are persistently moving forward, having completed sowing their spring grain crops on their third million hectares during the best periods. The machine operators in the Kulundinskaya Steppe region are now working on the last and fourth million hectares. /by A. Torichko/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 30 May 86 p 1/ 7026

INTENSIVE WHEAT FIELDS (Altay Kray)--Sowing work is in full swing in Altay Kray. The principal food crop alone -- wheat -- must be planted on 2,800,000 hectares. More than one third of the grain fields had been sown by the beginning of the third ten-day period in May and it was precisely during these last 10 days that the busy spring period was at its peak in Siberia. The machine operators are now maintaining a daily sowing productivity of 400,000 hectares. The intensive fields in the Altay Kray are considerable. Wheat alone must be grown using this method on 1.2 million hectares. This is the same area as last year. But at that time the task was to realize an increase of 500,000 tons and this was done. This year, 960,000 additional tons must be obtained from the intensive fields. The spring stage inspires hope: there is moisture in the soil, the grain growers have been supplied with adequate quantities of mineral fertilizer and the sowing operations are being carried out on a complex basis. The only alarming factor is the slow arrival of warm weather. Thus considerable importance is being attached to completing the sowing work in a timely manner; this will make it possible to obtain full-weight ears despite the brief Siberian summer. /by V. Golovachev/ /Text/ /Moscow TRUD in Russian 21 May 86 p 1/ 7026

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LIVESTOCK FEED PROCUREMENT

EXPANDED FEED CROP CULTIVATION, GRASSLAND USE ADVANCED

Yerevan KOMMUNIST in Russian 19 Jan 86 p 2

[Article by G. Gushchyan, department head of the Armenian Scientific Research Institute of Economics and Agricultural Organization: "Feed Production on a Planned Basis." Passages in upper case are published in boldface in the original text.]

[Text] A substantial increase in the production of coarse and succulent feeds due to the intensification of field and meadow-pastureland feed production is foreseen in the draft of the Basic Guidelines for Economic and Social Development of the USSR in the years 1986-1990 and in the Period up to the Year 2000. However, while the tasks for the increase of the total volume of the production of feeds and feed units by 1990 have been specifically decreed in this draft for Belorussia, Uzbekistan, Kazakhstan Azerbaijan, Lithuania, Turkmenistan and Estonia, this has not been done for the RSFSR, Ukraine, Georgia, Moldavia, Latvia, Kirghizia, Tajikistan and Armenia. Meanwhile, animal husbandry, which by our calculations makes up 30 to 57 percent of the entire value of the agricultural gross output, has also been sufficiently developed in these republics.

Consequently, based upon objective necessity, WE BELIEVE IT IS PROPER TO INDICATE IN THE DRAFT OF THE BASIC GUIDELINES - ALONG WITH THE INTRODUCTION OF TASKS CONNECTED WITH THE PRODUCTION OF ANIMAL HUSBANDRY PRODUCTS - THE TOTAL VOLUME OF FEED PROCUREMENT REQUIRED FOR THE PRODUCTION OF THESE ANIMAL HUSBANDRY PRODUCTS IN THE AFOREMENTIONED REPUBLICS BY THE EXTENT OF THE NUTRITIOUSNESS OF THE FEED.

In addition to this, the routes toward the principle resolution of the problems in the feed base for animal husbandry - which occupies an exceptionally significant place in the Food Program - have been insufficiently reflected in the draft of the Basic Guidelines. The point is that feed areas in the USSR - areas under feed crops and areas of natural hayfields and pastures - occupy a very large share of the total agricultural lands - 70.8 percent - varying by republic from 42.3 (Ukraine) to 97.1 percent (Turkmenistan) - yet their potential is being insufficiently utilized. In connection with this, I BELIEVE IT IS NECESSARY TO SEPARATELY INDICATE WITHIN THE BASIC GUIDELINES THE EXTENT OF PRODUCTION OF FEEDS (BY THE EXTENT OF NUTRITIOUSNESS OF THESE FEEDS) PER UNIT OF IRRIGATED LAND AND DRY-FARMING LANDS. For example, on the kolkhozes and sovkhozes of Armenia, on the average

one can count on the field feeds production of 30-35 quintals of feed units from one hectare sown with feed crops, including in this average 64 quintals from the low-lying irrigated zone of the Araratskiy plain, 58 quintals in the foothills zone under irrigation, and 24 quintals in the dry-farming lands.

With the development of land reclamation and especially with the expansion of irrigated lands, it is exceptionally important to set up intermediate sown areas of feed and food crops on these lands and to obtain not less than 2 harvests a year. The goal must be to have spring sown corn replace the corn that has been reaped. In southern regions of the country, such sown areas, set up for intensive utilization of irrigated lands, can occupy no less than 25-30 percent of the entire irrigated field, and this should also be reflected in the Basic Guidelines as tasks for the kolkhozes and sovkhozes. In Armenia, for example, intermediate sown areas can be brought up to 24,000 hectares, as opposed to the present 3,000-4,000 hectares, and on a country-wide scale they total 5-5.6 million hectares.

In the draft of the Basic Guidelines is stated: "More fully utilize the possibilities of natural feed lands for the development of sheep-breeding and meat cattle-breeding and extend the fattening of cattle on pastures." I believe it is quite insufficient to use vast areas of natural feed lands only to develop sheep-breeding and meat cattle-breeding. Today, these lands are being widely utilized - and in the future can be utilized - to develop MEAT-DAIRY, DAIRY-MEAT, PEDIGREE AND EVEN DAIRY CATTLE-BREEDING. The point is that on many farms the hay from natural hayfields occupies a significant place in the winter rations of the cattle, and in the summer a large number of cattle graze on feed lands, which guarantees a high meat-dairy productivity with low expenditures.

Yet the emphasis in the draft is still being placed on the development of sheep-breeding and meat cattle-breeding. The impression is being created that we must give up the driving of a significant portion of the cattle to pastures and turn the pastureland over to cattle breeding. But this is not economically justifiable. Let us recall that in the USSR natural hayfields and pastures make-up 58.3 percent of all areas of agricultural lands, but the proportion of cattle in the total number of cattle and small livestock is 81.5 percent. And in Armenia almost 89 percent of the number of dairy-meat cattle is driven to summer pastures but 33.2 percent of the total volume of hay is provided from natural hayfields.

That is why in the draft of the Basic Guidelines it would be proper to formulate the introduction as follows: "DEVELOP AND IMPLEMENT COMPLEX MEASURES IN THE INTENSIFICATION OF MEADOW-PASTURELAND AGRICULTURE, GUARANTEEING IN EACH KOLKHOZ AND SOVHOZ THE FULL UTILIZATION OF THE IMMENSE POSSIBILITIES OF NATURAL HAYFIELDS AND PASTURES FOR THE MAXIMAL INCREASE OF PRODUCTIVITY IN THE PRODUCTS OF ANIMAL HUSBANDRY - MEAT, MILK AND WOOL. QUICKEN THE RATE AND BROADEN THE SCALE OF WORK IN THE OVERALL IMPROVEMENT AND EFFICIENT UTILIZATION OF NATURAL FEED LANDS IN THE REPUBLICS OF TRANSCAUCASIA, CENTRAL ASIA AND OTHER REGIONS OF THE COUNTRY, WHICH WILL ALSO ALLOW THE HALTING OF THE GROWTH OF AREAS SOWN UNDER FEED CROPS AND SAVE THE PLOUGHED FIELD FOR INCREASING THE PRODUCTION OF GRAIN AND OTHER FOOD AND INDUSTRIAL CROPS." We note that in the last 20 years in the republic, while the total

area of ploughed fields, natural hayfields and pastures remained unchanged, areas sown with feed crops expanded by 1.9-fold, that is, their share of the total sown areas increased from 31.9 to 56.7 percent, having a growth tendency that is not entirely warranted. Presently, areas sown under feed crops in the USSR make up 32.9 percent of all of the sown areas of agricultural crops, varying according to republic from 19.8 percent in Uzbekistan to 56.7 percent in Armenia. Given the sufficient areas of natural feed lands, work of the animal husbandry farms (complexes) that does not utilize these lands is not in the interests of efficient land usage.

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LIVESTOCK FEED PROCUREMENT

UDC 633.2/4.00.3

IMPROVEMENT NEEDED IN GREEN FEED PROTEIN RESOURCE USE

Moscow EKONOMIKA SELSKOGO KHOZYAYSTVA in Russian No 5, May 86 pp 12-14

[Article by I. Zagaytov, doctor of economic sciences, and V. Shevchenko, candidate of agricultural sciences (Voronezh Agricultural Institute): "Certain Economic and Ecological Problems of Forage Protein"]

[Text] The new edition of the CPSU Program, oriented toward the necessity of accomplishing a shift of agriculture onto an industrial basis, adopting in all places scientific systems of farming and intensive technologies, improving the use of land and raising its productivity, strengthening the feed base, and ensuring steady agricultural production, requires that we find the most effective technological, economic, and ecological solutions possible to future problems of developing the agroindustrial complex.

In setting the order of priority of these solutions, it should be kept in mind that the effectiveness of the country's agriculture is largely determined by the situation in the livestock sector, for whose needs 88 percent of all agricultural lands are used, as well as over 70 percent of the labor resources in the countryside and an overwhelming proportion of the fixed production capital of kolkhozes and sovkhozes. Every agrarian knows that the main factor holding back the development of livestock raising today is the weak feed base. But far from everyone understands clearly what the essence of the problem is.

The problem is not an absolute shortage of feeds, as many economic managers imagine. In 1984 431 billion feed units were consumed in the country for feeding livestock and poultry. According to scientifically substantiated norms, this is enough to produce all the meat, milk, eggs, and wool called for in the Food Program for 1990. The point is not that we are not producing enough feeds, but that feed consumption in the livestock sector is 25-30 percent higher than the norm. Much of the fault for this resides in the structure of feed production, which does not adequately take into account the objective conditions, additional difficulties, and possible advantages of the organization of our agriculture.

In this connection we should like to call attention to the fact that the geographical factor dictates the necessity of adapting economic activity to the regular succession of livestock feeding methods--from the short but productive summer period to the naturally less productive but longer period in

the stalls. It would seem clear that such a situation requires the development of feed production, in order to raise the proportion of green feeds in fodder resources, as well as increasing the proportion of feeds which are better supplied with protein, vitamins, and other components of nutritionally balanced feeding in the rations of animals during the stall period.

Since a substantial part of the agricultural territory of the country is located in the zone of hazardous farming, the problem of raising the reliability of livestock breeding acquires special significance. It can be solved either by strengthening the material-technical base of the sector or by taking special economic measures to improve the placement and structure of production: concentrating livestock in regions with comparatively better water supplies, and increasing the proportion of concentrated feeds, which are very transportable and amenable to long storage, in the feed resources.

But statistical data testify that actual practice in recent years has gone in a different direction. For example, from 1975 to 1984 the proportion of the most effective green feeds in the total volume of feed consumption for all categories of farms dropped from 33 percent to 31 percent, and the proportion of concentrates made by the enterprises themselves (minus import) dropped from 28 to 24 percent. The rapid growth of production of the most "water-retaining" product--milk--is occurring not in regions with the best water supply, but frequently in regions with the greatest fluctuation of harvests. Therefore, despite the fact that in the years indicated the total consumption of feeds increased by 17 percent, the production of milk decreased by only 8 percent, and meat by 13 percent. The total feed intensiveness of livestock raising increased by 4 percent.

How can we change this trend and ensure the development of livestock raising at the most rapid possible rates based on rational use of material, labor, and land resources? The general direction has already been determined--the intensification of production and improved intersectorial ties within the framework of the agroindustrial complex. But in doing this different versions of specific solutions are possible.

For example, we could set out on a course of concentrating efforts on raising the harvest of all grain and fodder crops currently being raised by traditional methods in the traditional regions of their production. The volume of feed resources would increase, but since their composition would be little changed there would be no significant reduction of feed intensiveness. A different way is preferable. We must change the structure of the feed balance, increasing in it the proportion of feeds rich in protein and vitamins, concentrates produced domestically.

Without at all calling into question the value of an integrated solution to this problem based on specified zonal systems of dealing with agriculture, we nevertheless believe that a very important link of its implementation must be the organization of large-scale production of grass meal on the irrigated lands between the Volga and Ural rivers and in adjoining regions. In doing this we proceed from the following considerations.

According to the data of state quality testing sections, in cultivating perennial grasses on the irrigated lands in this region it is possible to obtain from one hectare approximately twice as many feed units and three times as much protein as in cultivating grain crops. This makes it possible to count on a more rapid increase of feed resources and greater effectiveness of the outlays for irrigation. Grass meal is a form of concentrated feeds which grain crops cannot compete with in terms of the concentration of many components which are important in animal rations during the period in the stalls, particularly carotene. Organizing their production in this region will make it possible to free part of the area now used to obtain hay, grass meal, and seeds of perennial grasses for expanded plantings of crops of the green belt in other regions of the country.

In addition, the labor intensity on farms of this zone will be somewhat reduced compared to the situation which might arise if grain crops are cultivated on these same irrigated lands.

Finally, we must draw attention to the ecological aspect of developing irrigated grass planting in the southern Volga region. Cultivation of grain crops here poses a particular danger of erosion. A crop of perennial grasses, however, makes it possible to stop processes of erosion, improve the microclimate, and recover up to 20 percent of plowed fields from a fallow condition. For this reason and in connection with the possibility of using substantial bodies of low productive pasturelands for irrigated grass cultivation, the total area of plantings of grain crops will not be significantly reduced.

Grass meal was not regarded as a feasible substitute for large volumes of grain fodder as long as its production was based on the use of imported liquid fuel and basically carried out on a small scale on farms with well-developed livestock raising, which limited the possibility of stable and highly productive use of equipment. As a result, the prime cost of grass meal invariably turned out to be high.

Our proposal comes from the possibility of changing this form of feed resources from the most expensive into one which competes successfully in its prime cost with the grain feed of the Nonchernozem Zone of the RSFSR, while because of the feed merits of grass meal in terms of useful effect per unit it will be the most inexpensive form of concentrates.

An extremely favorable combination of a set of natural conditions, one which has no equal in any of the countries of Europe and Asia (great bodies of extensively usable lands with an adequate duration of the frost-free period, the proximity of a powerful water source and large reserves of natural gas), is making it possible to count on high effectiveness of organizing on the steppes of the Volga region, the Southern Ural region, and the Western Caspian region a specialized zone of commercial production of grass meal, moreover on a scale adequate to completely balance animal rations with plant protein and carotene during the stall period, to raise the reliability of feed balances, and even for export. Thus, the idea is to produce concentrated feeds containing protein and vitamins in a volume comparable to the volume of increased grain production planned in accordance with the USSR Food Program.

In order to resolve this task it will be necessary to take into account the needs of commercial seed production to increase the irrigated lands available in this zone by approximately 6-7 million hectares, and allocate an additional 9-10 billion cubic meters of gas for the production needs of the agroindustrial complex. As the reclaimed lands are further extended, it will become possible to rationally combine irrigated grass cultivation with grain production, gradually increasing the proportion of grain crops in the crop rotation up to 50 percent on specialized farms to produce grass meal. In cultivating lands planted with grasses it will be possible radically to improve the structure of animal rations during the stall period. And, although in this case the feed intensiveness of livestock raising will be reduced by only 10 percent, up to 30 billion feed units will be saved during the stall period, including more than 10 million tons of grain.

A strengthened feed base will make it easier to bring into action many other reserves for increasing domestic resources of grain, for example reducing the area planted in winter crops used for green feed.

Assuming that the yield of winter crops for green feed during the entire period of grazing is a maximum of 120 quintals per hectare, 25 quintals of milk can be obtained from 1.5 hectares of crops. But since we are talking about the period when a substantial portion of the milk is put into the production of butter, in practice this means that a section from which it is possible to obtain 35-40 quintals of grain can provide the raw materials for producing 1 quintal of butter. And, since in the world market the price of 1 quintal of cow's butter is holding steady at the level of the price of 8-13 quintals of grain, lengthening the stall period and reducing grazing of winter crops by even 1.5 million hectares could, without harm to the country's food and fodder resources, reduce grain imports by 4-4.5 million tons.

Implementation of this project appears feasible over the course of 15-20 years, if the activity of the various departments and territorial organs of administration is suitably coordinated. This will require, in particular, effective organization of land construction projects, the development and industrial assimilation of series production of more powerful and economic systems of machines for drying grass meal and shaping it into bricks, and development of warehouse facilities and transport. Special attention should be focused on developing a system of measures for producing seeds of the grasses best adapted to irrigated production in this region which make it possible to continue using equipment for the maximum length of time, and which, in their composition, supply better than others the scarce elements which are necessary for animals' feed rations during the stall period in various regions of the country, and so forth. In connection with this, a special study must be made of the comparative effectiveness of different systems of feeding livestock under the conditions of orientation toward widespread use of grass meal in animal rations during the stall period.

No matter how significant the volume of capital outlays and organizational measures for the practical implementation of the proposed version of radical structural readjustment of the country's feed balance, its realization must be technically stronger, economically less expensive, more reliable, and less time-consuming in its execution than any other methods of solving this problem

discussed so far. Its implementation should be effective because it will accelerate the development of a technologically simpler feed production sector, and because it proposes concentrating efforts on a relatively small territory based on narrow specialization. And, finally, because these efforts should be concentrated not in distant, barely habitable regions, but in the Southern Volga region, where it is possible to resolve questions of power engineering and developing the construction base comparatively more simply and inexpensively, as well as the production-technical, scientific, and social services necessary for highly reliable (thanks to irrigation) commercial feed production.

**Editor's Note.** In light of the directives of the 27th CPSU Congress on All-Around Development of Feed Production, the authors' formulation of the question seems important and timely. We invite the readers to take part in discussing the value of gradually creating an all-union base for producing grass meal on the newly irrigated lands of the Southern Volga region, using inexpensive local gas as the fuel. We hope for the interested participation of the State Planning Committees of the USSR and RSFSR, the State Agroindustrial Committees of the USSR and RSFSR, the All-Union Academy of Agricultural Sciences imeni V. I. Lenin, and workers of oblast agroindustrial committees.

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12255  
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LIVESTOCK FEED PROCUREMENT

NEED TO INCREASE MEADOWLAND FEED PRODUCTIVITY STRESSED

Moscow SELSKAYA ZHIZN in Russian 23 May 86 p 2

Article by D. Altunin, professor and Doctor of Agricultural Sciences: "Why Is the Bottom Land Poor in Feed?"

Text Inundation meadows have always been a source for cheap and succulent feed. Indeed, in terms of grass productivity, natural flooded meadows surpass by a factor of 2-3 feed lands located in dry valleys. Inundation meadows occupy only approximately 8 percent of the natural feed lands and yet the kolkhozes and sovkhozes obtain not less than one half of all of their natural grass hay from them. These lands provide 40-45 or more quintals of hay per hectare and they can support a large herd, with 15-20 kilograms of milk being obtained daily per cow in the absence of concentrates. It is by no means an accident that the best domestic strains of cattle are bred on farms located on the bottom lands of rivers.

At the present time, leading farms in Moscow, Ryazan, Penza, Volgograd, Uralsk and Novosibirsk oblasts are annually obtaining not less than 50-60 quintals of hay per hectare from inundated haying and pasture lands. And at the Krasnaya Poyma Experimental Farm in Moscow Oblast, the Kolkhoz imeni XXII Syezda KPSS in Penza Oblast and on an experimental farm of the Mordovian Agricultural Experimental Station, a hectare of inundated meadow is furnishing 65-70 quintals of hay. The cost to the farms for a kilogram of this hay is not more than 4-5 kopecks.

However, recently the productivity of inundated meadows on many farms has declined. Flooded meadows of the Volgo-Akhtubinsk bottom land furnish only 8-12, the bottom land of the Don and its small rivers -- 8-10 and the bottom land of the Ural River -- 7-15 quintals of hay per hectare. Even lower yields are being obtained from the bottom land of the Ob River. This is mainly the result of poor tending of the meadows. More than 17 percent of the inundated and flooded haying land is overgrown with underbrush and small trees or covered with small hillocks of grass. As a result, almost none of this land is being used for the production of feed. And in the bottom land of the Ob River, of 2 million hectares of meadowland, more than one half is in need of comprehensive land reclamation development. Such lands have for all practical purposes been removed from agricultural use. On farms in the Khanty-Mansiysk Autonomous Okrug, they constitute 47 percent of the land and in the northern part of Tomsk Oblast -- 36 percent. Owing to the absence of proper tending, a sharp

reduction has taken place in the productivity of meadows on the bottom land of the Ural River in Orenburg, Aktyubinsk and Ural oblasts.

The construction of large hydraulic engineering installations has caused considerable damage to the productivity of inundated meadows. The regulation of rivers has changed the flooding regime and hence the moisture conditions. This will bring about the disappearance of valuable meadow plants in the grass stands. Even more serious harm will be inflicted upon those farms the inundated meadows of which are under water.

This is a serious problem and one which requires an urgent solution. During the 12th Five-Year Plan, the hydraulic engineering builders must be ensured inundated meadows which are positioned lower than dams and which have tolerances which will ensure their flooding for not less than 15-20 days. In order to eliminate shallow water areas and return these areas for haying and pasture purposes, the reservoirs must be built up and drainage carried out. This measure will aid in solving a number of extremely important problems: it will make hundreds of thousands of hectares of flooded land available for feed production, it will reduce sharply the moisture evaporation areas of reservoirs and it will make it possible to obtain not less than 8 million additional tons of high quality hay.

It is possible to obtain not less than 20-25 million tons of hay from inundated meadows. The actual amount is three times less however. This occurs owing to the fact that practically no fertilizer is applied to the inundated meadows or it is applied in small and nutritionally unbalanced dosages. Moreover, as a result of unsystematic use, many areas require regrassing. Even minimal capital investments in such lands will make it possible over the next few years to raise the productivity by a factor of 3-4 or more.

In order to obtain comparatively high hay yields (40-60 quintals per hectare), approximately 60-90 kilograms of nitrogen, 30-60 kilograms of phosphorus and 90-120 kilograms of potassium should be applied. Multiple-cuttings of inundated meadows (in the northern regions of the country -- two cuttings, and in the central and southern regions -- 3-4 cuttings) furnish up to 70-100 quintals of protein and vitamin-enriched hay per hectare. Multiple-cutting utilization also solves another problem -- ensuring that livestock are supplied with protein. Indeed, a feed unit obtained from bottom land grasses contains not less than 130-160 grams of protein. However, in order to obtain high grass yields from multiple-cutting utilization, the mineral fertilizer dosages must be increased to 180-240 kilograms of nitrogen, 60-90 kilograms of phosphorus and 120-240 kilograms of potassium per hectare.

Even with radical improvements being carried out on meadows, the expenses are repaid within 2-4 years. Following radical improvements on meadows located on the bottom land of the Dnepr River (Smolensk Oblast), the hay yields increased from 14 to 95 quintals per hectare, on the bottom land of the Klyazma River (Vladimir Oblast) from 6-7 to 60, on the bottom land of the Oka River (Moscow and Ryazan oblasts) from 15-19 to 75-103 quintals and on the bottom land of the Ob River (Novosibirsk Oblast) from 7 to 43-48 quintals. Unfortunately, the land reclamation specialists are reluctantly carrying out the work of radically improving the haying and pasture lands, despite the fact that the capital

expenditures are repaid 3-5 times more rapidly than those for large-scale land reclamation projects associated with the drainage of swamps and the cutting down of a forest.

Everyone is aware that capital investments should be employed mainly in those areas where they can produce high results within a brief period of time. This is why we believe that Gosplan for the USSR and the union republics, commencing in 1986, should redistribute the capital investments and employ them for improving inundated meadows and not for creating costly drainage systems. This will make it possible to improve sharply the country's feed base.

There is not enough grass seed available for radically improving inundated meadows. The requirements for such seed are especially great on farms in Siberia, the Far East, Kazakhstan and the Lower Volga region. Here there is a requirement for grasses which can endure prolonged flooding -- canary grass, awnless brome grass, wheat grass, sloughgrass and black medick. However, there are very few farms in these regions which are producing grass seed for inundated meadows. Farms should be created in the near future such that by the end of the five-year plan the kolkhozes and sovkhozes will be supplied with grass seed in the required amounts.

Work concerned with the tending and use of inundation meadows is being held up by the absence of specialized equipment capable of being operated under flooded bottom land conditions. Self-propelled machines are required for this purpose -- small machines with good cross country capability -- for applying fertilizers and for cutting down the grasses. The equipment usually employed here for harvesting grasses -- E-280, KSK-100, E-301 -- is not very suitable for water-logged lands. Lighter machines of the Yaroslavets type are needed. Harvesting machines mounted on cutters, capable of procuring feed from the bottom lands of rivers, are being employed in regions of the Far North. It is our opinion that a network of farms should be created in these regions for the efficient use of inundation meadows. Such farms could supply livestock farms in Siberia and the Far East with feed (grass meal and clippings in pressed form).

An increase in the productivity of inundation meadows will make it possible to reduce considerably the sowings of forage crops, thus making arable land available for grain, technical and other crops.

7026  
CSO: 1824/354

LIVESTOCK FEED PROCUREMENT

POTENTIAL FOR USE OF ANTIBIOTICS IN FEED

Moscow SELSKAYA ZHIZN in Russian 30 May 86 p 2

Article by K. Solntsev, Academician of All-Union Academy of Agricultural Sciences imeni V.I. Lenin: "Lost Opportunity"

Text More than 1 million additional tons of meat can be obtained during this current five-year plan through the use of feed antibiotics in livestock husbandry. Why is poor use being made of this tremendous reserve? This is the subject of the following article.

Initially I would like to mention the great potential possessed by antibiotics. An experimental check has revealed that in terms of their biological essence they serve to accelerate the production of livestock husbandry products. Young bulls show an increase in weight when they are supplied with antibiotics together with their feed. Young swine and sheep also add weight more rapidly. The use of biostimulants also has a beneficial effect on the productivity of poultry. According to data supplied by VOZ /World Health Organization/, the addition to feed of 1 kilogram of antibiotics (in a calculation for pure substance) produces 1 ton of meat in dressed weight.

There is still one other valuable property of biostimulants -- they improve noticeably the utilization of feed by animals. For each ton of live weight obtained in cattle husbandry, a savings of 900-1,000 feed units and 140 kilograms of protein is realized, in swine husbandry the figures are respectively 750-800 and 100 and in poultry production -- 600-630 feed units and 120 kilograms of protein. Is it necessary to stress the importance of this factor to those farms which are experiencing a shortage of protein in their feed?

It bears mentioning that industry responded in a timely manner to the needs of the meat branch: as early as 1975, preparations were introduced into the feed for roughly 12-14 million head of cattle, 45-50 million swine and 100-110 million head of poultry. This enabled the farms to obtain not less than 700,000-750,000 additional tons of meat annually. It would seem that biostimulants should be used more extensively in livestock husbandry with each passing year, thus ensuring accelerated growth in the production of meat. Actually, such interest is still not being displayed.

Even at enterprises of Ptitseprom, feed antibiotics are not being used properly. Its leaders are obviously completely satisfied with the development of the branch based upon extensive use of the industrial technology. Thus the branch is deprived of an opportunity to obtain additionally a large quantity of dietetic meat and eggs and to economize in the use of feed which is in short supply.

Other branches of the APK /agroindustrial complex/ are also clearly failing to attach proper importance to the value of feed antibiotics. This has led to a situation wherein, at enterprises of the USSR Ministry of Grain Products, a sharp decline has taken place in the production of mixed feeds enriched with antibiotics. Thus, only one type of mixed feed containing antibiotics is presently being produced for young cattle stock. It is intended for calves ranging in age from 10 to 75 days, which are being raised at industrial complexes, and this constitutes not more than 20 percent of the animals. I do not believe that the following figures are superfluous: the exclusion of feed antibiotics from the ration for young cattle stock, during a later period in their growth and fattening, at a complex for 10,000 animals, lowers the annual production of meat by 320-330 tons. It is easy to estimate the quantity of valuable food products which will not be realized by kolkhozes, sovkhozes and inter-farm fattening enterprises throughout the country as a whole.

Nevertheless the production of enriched mixed feed antibiotics continues to decline. Thus USSR Gossnab was forced to send the principal quantity of biopreparations to the trade network of zoovetsnab /zooveterinary supply/ for sale directly to kolkhozes and sovkhozes. And this raises a new range of problems. Indeed, the majority of farms lack micro-dosing devices and special mixing units for the standard introduction of biostimulants into feed. The specialists at farms and complexes must apply them by eye. Hence the return from feed antibiotics is not very high and re-dosings can even produce negative results. Is this not one of the reasons why production workers display a cool attitude towards antibiotic preparations?

The situation must be corrected on an urgent basis. It should be added that an instruction on the use of antibiotics, which was approved in 1985, has been observed in a very strict manner in the various areas. It clearly states that biostimulants must be used only in the composition for premixes, mixed feeds, feed mixtures and protein-vitamin-mineral additives.

Another urgent measure is that of intensifying scientific studies in this particular field. At one time the USSR State Committee for Science and Engineering excluded from the coordination plans for the 11th Five-Year Plan the problem and subjects concerned with improving the use of antibiotics in livestock husbandry. Based upon this fact, they discontinued the subjects and thereafter the scientific laboratories of 17 scientific-research institutes subordinate to the USSR Academy of Sciences, the academies of union republics and VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/. For more than 20 years, industry has not been receiving strains of new antibiotics. And indeed the strategy and tactics for the use of biostimulants call for them to be changed periodically, especially at the present time with livestock husbandry being converted over to the path of intensive development.

The time is at hand for the scientists and practical workers to summarize available production experience in the use of productivity stimulants and to outline the direction to be followed for further research.

And was it really correct for Agroprom Publishing House to terminate the publication of literature on the use of antibiotics? At the present time, it is impossible to find such literature in the book stores.

The potential is available in our country for rapidly increasing the production of meat through the use of biological stimulants. The task at hand is that of making full use of this potential in actual practice.

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LIVESTOCK

ESTONIAN EXPERTS DENY CATTLE DEATHS DUE TO RADIATION

LD231113 Tallinn Domestic Service in Estonian 1600 GMT Jun 86

/Excerpt/ One encounters people who are spreading unfounded rumors about the Chernobyl incident. Around Rakvere they talk as if cattle had perished on the Triigi sovkhoz in Rakvere rayon because of increased radioactivity. Ott Kool now clarifies the matter: On the Triigi sovkhoz in Rakvere Rayon, animals are becoming ill in large numbers, to quite a serious extent. Large numbers of animals have died. Opinions concerning this are very varied.

/Begin recording/ /Kool/ Secretary of Rakvere raykom Ulo Niisuke, what is the cause; what is the situation at Triigi at present?

/Niisuke/ Unfortunately, yes, a fact of this kind has occurred at Triigi. Animals have perished, and not a few but in quite large numbers. But they have not simply died: we have had to slaughter them. The cause is clear to us. A group of the agroindustrial association's specialists have ascertained that this concerns the consequences of last year's rain and the preparation of fodder: silage and haylage.

This question was discussed and the attention of the sovkhoz's management was directed at meetings of the raykom buro and also of the executive committee. Unfortunately, conclusions have not been drawn from this, and this has now reflected in the death of animals. I think our specialists will blame the poor quality of fodder. Without doubt, the organizing of work must be included, about which we again directed the attention of the Triigi sovkhoz, that conveying of fodder and timely feeding are very important. Here one is purely very much concerned with mistakes in fodder production and with mistakes of organizing work.

/Kool/ Estonian SSR Veterinary Surgeon of Merit Taimi Parve, you were engaged at Triigi with finding out the causes of the disease. What is your assessment?

/Parve/ I am familiar with the entire material on what has been done to investigate the state of health of animals of Triigi sovkhoz. The investigations are thorough, beginning with metabolism, the actual situation at the animal husbandry farm section, and pathological changes. Laboratory investigations, both biochemical and bacteriological-virological, have all been done. There are no infectious diseases. According to histological investigations,

and likewise according to pathological-anatomical diagnosis, we are dealing with metabolic damage to liver in a great many animals. Therefore milk from sick animals is not used. The emergency-slaughtered animals--the veterinary-sanitary expert examination is totally correct--that meat is fit for use. And now the herd is already out, and we hope to overcome this matter. It is, of course, quite another question whether the livers which have been damaged are curable. Restoration to some extent takes place in the fall, but serious liver damage is not restored.

/Kool/ So, there is no foundation for the view that we are dealing with radioactivity in the present-day fodders or earlier fodder, that is, that all our foodstuffs produced in Rakvere rayon and the Estonian SSR are, after all, unaffected by major contamination?

/Unidentified voice/ Yes, when we analyze it in a logical manner, those fodders on the Triigi sovkhoz produced in the fall of 1985 were covered by plastic sheet and then covered by peat. And, secondly, I would like to say that our rayon civil defense headquarters measures the state of radiation four times in a 24-hour period, and at present it is a little under the norm, according to the morning data of today. So that the activity, such as some at present are spreading the rumors that one cannot drink milk from Triigi or the rayon is entirely without foundation. We can safely drink the milk and eat butter which is produced in Rakvere rayon. /end recording/

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CSO: 1824/386

LIVESTOCK

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INTERFARM COOPERATION IN BELORUSSIAN LIVESTOCK SECTOR ADVANCED

Moscow ZHIVOTNOVODSTVO in Russian No 2, Feb 86 pp 29-30

/Article by G. I. Svirko: "Interfarm Cooperation in Belorussian Animal Husbandry"/

/Text/ In the republic, purposeful work is being carried on to increase the specialization and concentration of agricultural production, the development of interfarm cooperation and agro-industrial integration. As a result, the interregional and interfarm division of labor has been intensified; a system of special farms, interfarm enterprises (MKhP) and associations has been created for the production of livestock. The main types and organizational forms of cooperation were the interfarm enterprises, as well as the collective farms and state farms carrying out the industrial functions of the interfarm enterprises.

At present, in the Belorussian SSR, 238 interfarm establishments are involved in animal husbandry.

The highest concentration level has been attained in hog raising. At present, 33 hog-farming complexes operate on an interfarm basis. Their capacity is usually 27 to 54 thousand fattened hogs per year; they are produced by the proportionate contribution of the collective farms and state farms--partners in cooperation.

Practice has shown that this agricultural branch can be established on an industrial basis only by interfarm cooperation because the building and the ensured feed supply of large hog-farming complexes cannot be achieved by the efforts of a single farm.

In the republic, the functions of interfarm enterprises in beef production are carried out by 125 collective and state farms and in heifer raising, by 52 farms. In these farms, complexes have been built also by the proportionate contribution of the cooperation members.

In the interfarm establishments involved in fattening cattle and in heifer raising, there are about 600,000 heads of cattle; in 1984, a live weight increase of 88,000 tons was attained.

For the interfarm enterprises, all the production indicators are usually better than for the collective farms and state farms. For example, in 1984, for interfarm enterprises, the feed consumption for obtaining a 1-quintal live weight increase in hog production was on the average lower by 26.5 percent, and for cattle--by 21.5 percent than in the collective farms and state farms of the republic, but the average daily increase in live weight of one head was higher by 19.4 and 28.3 percent, respectively. The cost price for a 1-quintal live weight increase for pigs was lower by 30 percent and for cattle--by 15.8 percent; labor costs were lower by 62 percent and 37.9 percent, respectively.

Among the interfarm enterprises, there are some which clearly show the advantages of cooperation. Thus, over 1,000 g of average daily increase in live weight is obtained per head of cattle on fattening in the interfarm collective farm complexes: "Mir," Baranovich Rayon, Brest Oblast; "Demekhi" Rechitsk Rayon, Gomel Oblast; and over 500 g in the interfarm hog-raising collective farm complexes, "Put k kommunizmu", Grodno Rayon; Zhdanov Farm in Berestovitskiy Rayon; Chernyakov Farm in Karelich Rayon, Grodno Oblast; "Pramen Kastrychnika" in Mozyr Rayon, Gomel Oblast; the interfarm enterprise "Yuzhnoye" in Pinsk Rayon, Brest Oblast, and others.

It should be noted that in several interfarm establishments, the production indicators are still low. The main reason is feed shortage. Therefore, at present, the task is to establish a solid feed basis. It is proposed that this be attained by a deeper specialization of feed production in the farms on the territory in which the complexes are located. Such special farms are exempt from the plan of selling the crops to the state; this is done by the farms--partners in cooperation.

Many specialized farms cultivate the soil very effectively and have considerably expanded catch crop and multiple seedings, and thus ensured green forage, and in part the grain feed for livestock.

The shortfall in concentrated feed must be provided by the farms--partners in cooperation, but they often do not fulfill their contractual obligations. Therefore, in many regions of the republic, specialized farms are established for producing grain for feed. For example, in order to ensure green forage for the hog-raising complex, (assigned the fattening of 24 thousand head a year) in Kletsk Rayon of Minsk Oblast, from the number of cooperation partners, four farms were chosen which specialize in producing grain and which provide annually more than 7,000 metric tons of green forage for the complex.

The farm partners have an interest in the highly efficient work of the interfarm enterprises because, after delivering the livestock to the state, the meat produced by them is taken into account in the fulfillment of the purchase plan of the cooperating farms. Moreover, the profit from the interfarm activity in the complexes is divided among the cooperating

farms by taking into account their proportionate contributions, the amount of livestock delivered, feed, etc. In 1984, over 135 million rubles of profit was distributed and 33 million rubles were paid out through price calculation /cherez raschetnyye tsemy/ for producing livestock and feed.

In practice, depending on production conditions, there are three variants of profit distribution, as follows: by price calculation during the course of the year, by annual results, or by a combination of these two variants.

The economic relations among collective farms and state farms, fulfilling the production functions of interfarm enterprises, with the farms--partners in cooperation in the production of one type of product are implemented in most cases by the mechanism of price calculation. This is conditioned by the fact that in many of them, the multibranch structure and the interest in obtaining products of cooperative and noncooperative production often differ. Profit distribution by price calculation is expedient also for narrowly specialized farms which carry out the functions of interfarm enterprises, provided they have a guaranteed feed production, appropriate technology, and a highly organized and profitable production. An example of such an approach is the activity of the state farms "Mir," Baranovich Rayon, Brest Oblast and "Krasnogvardeyskiy," Pukhovichkiy Rayon, Minsk Oblast.

In the year-end profit distribution, feed-producing farms are given preference. Price calculation for young cattle produced in interfarm complexes that raise and fatten them are fixed in most cases by differentiation according to the growth-weight groups or the periods of animal breeding; this makes it possible to investigate more closely the difference in the costs of their keeping.

By the creation of agro-industrial associations in the republic, the work toward further intensification of the agricultural production based on specialization, concentration, and interfarm cooperation has been activated. Economic relations have been established between the interfarm enterprises and the cooperation partners. The agro-industrial associations were given the right to centralize certain industrial and economical functions and to assign them to certain enterprises and organizations as well as to determine price calculation for livestock, feed, and materials to be provided for the collective farms, state farms, and other agricultural enterprises and organizations forming the association. As a result, in 1984 the interfarm sector produced more livestock meat than in 1982 by 43,700 tons, that is by 30 percent.

The prospects for the work of interfarm animal raising enterprises under the conditions of the activity of agro-industrial associations are doubtlessly good.

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REGIONAL DEVELOPMENT

KAZAKH GOSAGROPROM ADMINISTRATIVE STRUCTURE OUTLINED

Alma-Ata SELSKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 3, Mar 86 pp 4-5

[Article: "Gosagroprom in Action"]

[Text] The Kazakh SSR Gosagroprom is now managed, planned, and financed as a single whole, and 19 oblast agroproms and 220 RAPO operate. The republic's State Agroindustrial Committee, called upon to examine major problems concerning the development of the agroindustrial complex, has been formed. A board of 19 people has been established for the solution of problems concerning the operation of enterprises and organizations forming part of the Gosagroprom system.

The administrative machinery of the Kazakh SSR Gosagroprom, of agroproms of oblasts, and of rayon agroindustrial associations is staffed with experienced managers full of initiative and with highly skilled specialists capable of carrying out work knowledgeably, affecting the development of supervised sectors, and providing the necessary help during trips to localities.

The Kazakh SSR Gosagroprom is the central body of management of the republic's agroindustrial complex. It bears full responsibility for an increase in production, for the fulfillment of plans for purchases of agricultural products and ensuring their complete safety, and for a high-quality processing and a significant expansion of the assortment of foodstuffs. For these purposes the committee has been given appropriate rights and powers in the area of planning, financing, and provision of the agroindustrial complex with material and technical resources. The decisions of the Kazakh SSR Gosagroprom adopted within its competence are mandatory for execution by all ministries, departments, associations, enterprises, and organizations in the republic.

With the establishment of the Gosagroprom the lack of departmental coordination has been eliminated. Fields and farms now have one manager and the efforts of collectives of sovkhozes, kolkhozes, and food, processing, and service sectors are more closely coordinated in the fight for the attainment of high end results.

In accordance with the aims of the Central Committee of the Communist Party of Kazakhstan and the Kazakh SSR Council of Ministers concerning the realization of the decree of the CPSU Central Committee and the USSR Council of Ministers

"On the Further Improvement in the Management of the Agroindustrial Complex" the republic's Gosagroprom concentrated its principal attention on ensuring:

acceleration of scientific and technical progress in agroindustrial production;

scientifically substantiated planning, financing, and resource support for production development with due regard for the most complete utilization of the capabilities and peculiarities of every oblast;

strict control over a balanced development of sectors of the agroindustrial complex, implementation of the integration of agriculture with the processing industry, and development of the material and technical base for the storage and transportation of products;

refinement in methods of economic management and cost accounting relations, implementation of scientifically substantiated price formation, and introduction of advanced forms of labor organizations and wages and of standard methods of material and technical supply;

refinement in capital construction and planning in the system of the agroindustrial complex and an efficient utilization of funds and material resources;

intensification of the integration of science and production and organization of the training and retraining of personnel with due regard for the transfer of all the sectors of agroindustrial production to the intensive path of development.

The Gosagroprom is made responsible for the efficiency of selection work, pedigree stockbreeding, introduction of the machine system, and intensive energy- and resource-saving technologies, for an efficient utilization of fertilizers, chemical ameliorants, and plant protection agents, for the safety of land resources, and for an increase in soil fertility.

The republic's Gosagroprom, agroproms of oblasts, and RAPO are obligated to apply maximum efforts for the solution of the following problems:

mastering of scientifically substantiated farming and animal husbandry systems and an efficient utilization of material-technical, financial, and labor resources;

improvement in the territorial structure of the agroindustrial complex and development of production specialization and concentration;

equalization of economic conditions of management on kolkhozes, sovkhozes, and other enterprises of the system of the agroindustrial complex;

further development of subsidiary plots of enterprises and organizations, of citizens' private subsidiary plots, and of collective horticulture and gardening as components of the food complex;

implementation of measures for the social reorganization of rural areas, establishment of stable labor collectives on kolkhozes and sovkhozes, of construction organizations, and of processing enterprises, and the training and retraining of medium-level and mass trade personnel.

The functional duties and tasks of all main administrations, administrations, divisions, subdivisions, and sectors are clearly determined in the machinery of the republic's Gosagroprom.

The Main Administration for the Planning and Social and Economic Development of the Agroindustrial Complex is among the leading ones. Here plans are brought together and made more precise and the prospects for an advance of all the agroprom's sectors in their mutual coordination are determined. Therefore, specialists approach the solution of the problems within their competence with great responsibility.

The chief thing now is to see to it that the economic mechanism operates efficiently from its first steps. The Gosagroprom's potential is great. However, for a fuller utilization of its capabilities, it is necessary to improve the planning mechanism along "vertical" and "horizontal" lines and to make sure that plans for the development of all the agroprom's sectors take into account existing potentials and that provision is made for an acceleration of the rates of scientific and technical progress and the saving of resources. The administration's specialists are preoccupied with this.

The activity of the Main Administration of Farming is noticeable. The efforts of its specialists are directed toward contributing to an increase in the production of grain and hulled and industrial crops. The further improvement in zonal farming systems, intensive and industrial technologies, and primary seed breeding is the path to this. Therefore, the main administration strengthens the relations with scientific institutions and together with them prepares the necessary recommendations for an increase in harvests of grain and other crops and for a prompt and high-quality performance of work. It also studies the state of affairs in localities and provides assistance to agronomical services of RAPO, sovkhozes, and kolkhozes.

Other main administrations--for the production and processing of fruit and vegetable products and potatoes, of the food industry, for the production and processing of livestock products, and for the production, processing, and utilization of feed--operate in a similar manner. Administrations of the meat and dairy industry function in the structure of the main administration in charge of animal husbandry problems. In brief, the solution of problems of increase in the production of farm products and their high-quality processing is interrelated here. Specialists of the main administration pay daily attention to this.

The same overall nature is ensured at the Main Administration for the Production and Processing of Fruit and Vegetable Products and Potatoes. It also has many concerns. The problem of fully meeting the needs of the republic's population for potatoes, vegetables, fruits, and grapes (both in fresh and processed form) from its own production has now been raised sharply.

Serious obligations have been entrusted to the Administration for the Quality of Agricultural Products. The duty of its specialists is to manifest principled nature, to persistently strive for an improvement in the quality of farm and livestock products, to strictly observe the requirements of the All-Union State Standard, and to implement appropriate measures with trips to farms.

Under the conditions of strengthening of the fight for the intensification of farming the role of the Kazakh SSR Scientific Production Association for Agrochemical Services to Agriculture is increasing. Its plans include the further improvement in agrochemical services to sovkhozes and kolkhozes and an increase in the volumes of application of mineral and organic fertilizers and the development of solonets land.

Exceptionally important functions have been entrusted to the Administration of Scientific and Technical Progress. It is called upon to accumulate everything that is new and advanced in agrarian science and technology and to strive for its general introduction.

Scientific support for the tasks of the republic's Gosagroprom is the very first duty of the Eastern Department of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin and its scientific research institutes and experimental stations. Strengthening the integration of science with production, it is important to continue the establishment of major scientific production associations, whose efficiency is confirmed by practice.

The republic's Gosagroprom and agroproms of oblasts are directly responsible for an improvement in the activity of subordinate scientific research institutions and scientific production associations, for the intensification of their effect on the development of agroindustrial production, for the management of seed breeding, for a prompt strain exchange and renovation, for veterinary services to animal husbandry, for the work of pedigree stock stations and stations for artificial insemination, for a high-quality refinement in the pedigree composition of livestock, and for an improvement in herd reproduction.

The engineering service has been unified at the Gosagroprom. The Main Administration of Mechanization and Electrification takes measures to accelerate the rates of preparation of equipment for spring field work everywhere and to solve problems concerning the further transfer of farming and animal husbandry to an industrial basis.

A unified system of material and technical supply has been established at the Gosagroprom. Machines, equipment, rolled metal products, pipes, fuel, and other resources are allocated basically to agroindustrial committees of oblasts for a subsequent distribution to RAPO. Along with this supply functions of other national economic sectors have been retained. The obligations of the Main Administration of Material and Technical Supply include the outfitting of the agroprom's construction projects with equipment and special materials and in its structure there is an administration for the utilization of secondary resources.

Main administrations of capital construction and construction by the economic method operate in the Gosagroprom system. The start-up projects of this year and the most important construction projects of the entire five-year plan, on which construction builders' efforts are concentrated, have been determined.

There is a business-like, creative atmosphere at the republic's Gosagroprom, agroproms of oblasts, and RAPO. They have at their disposal everything that is necessary to strengthen from the first year of the 12th Five-Year Plan the practical effect on the intensification of farming and animal husbandry, increase in labor productivity, improvement in qualitative indicators, and strengthening of the policy of economy. Certain positive changes already exist. The preparation for spring field work is better than last year. Many farms, supporting the initiative of workers at the agroprom in Karaganda Oblast, have repaired equipment well in advance and have brought seeds up to high standards. The maximum amount of winter moisture has been accumulated on fields and assignments for carting out organic fertilizers are being fulfilled.

Following the example of Pavlodar livestock breeders, farm workers on most sovkhozes and kolkhozes are completing livestock wintering in an organized manner. As a result of an improvement in fattening, the average delivery weight standards of animals have risen. Owing to the growth of milk yields, milk production has increased. Work on an increase in the output of meat and dairy products, introduction of waste-free technologies, and transition to direct relations with sovkhozes and kolkhozes is intensified at meat combines and dairy plants.

A great deal is done to fulfill the stepped-up program for the construction of the agroprom's projects and for the social transformation of rural areas.

All these are only the first steps in the fight for a successful fulfillment of the plans and socialist obligations of the current year and for the implementation of the large-scale responsible tasks mapped out by the 27th CPSU Congress and the 16th Congress of the Communist Party of Kazakhstan for an increase in the production of food products and articles from agricultural raw materials. The Gosagroprom as the headquarters of the republic's major agroindustrial complex must even more actively affect the entire multiplane process of intensification of agriculture and of the sectors connected with it and act as a fighting organizer of work on the further increase in the production of farm and livestock products, their waste-free processing, complete safety, and delivery to consumers in a high-quality commodity form. For these purposes it is important to affirm the innovative style of activity and economic methods of management and to resolutely reject routine, inertia in thinking, speechifying, and unnecessary paper work.

The hopes that a closer coordination in the activity of all sectors, enterprises, and organizations forming part of the Gosagroprom system will be ensured are connected with the new management body. A keen sense of the new should be inherent in all its specialists. This will make it possible to ensure that the level of work of the republic's Gosagroprom corresponds to the spirit of the times and to the increasing demands. Under the new conditions party members united at the republic's Gosagroprom into a major party

organization are called upon to show an example of enterprise and great responsibility. It is important that the party committee of the APK headquarters and of the primary organization skillfully directs the efforts of the managerial staff toward the fulfillment of the tasks set, develops the initiative of specialists (they are mainly party members), and sees to it that they are more closely connected with production, solve all problems competently, and act as conductors of scientific and technical progress in the agroprom's sectors.

The republic's Gosagroprom and agroindustrial committees of oblasts must strengthen the relations with primary links in the APK management system--rayon agroindustrial associations. Their efforts should be directed toward the maximum utilization of local possibilities of increasing the production of food products and improving their supply for the population.

An efficient utilization of the created production potential, an improvement in soil fertility, and an increase in the yield of agricultural crops and in livestock productivity are the most important obligations of rayon agroindustrial associations.

The 16th Congress of the Communist Party of Kazakhstan set large-scale responsible tasks for the republic's Gosagroprom, agroproms of oblasts, and RAPO. The new bodies of management must primarily direct the efforts of workers of the agroindustrial complex, specialists, and managers toward the fight for the maximum increase in grain production. The starting year of the five-year plan should become the year of large-scale Kazakhstan grain. It is necessary to produce no less than 29 million tons of grain and to sell 16.5 million, including 6.4 million tons of durum and strong wheat varieties, to the state. The gross output of grain should be raised through an increase in the harvest of grain crops cultivated according to intensive technology and an expansion of areas sown with corn. The areas of programmed cultivation of rice on irrigated land should now be brought up to 95,000 hectares and of corn for grain, up to 96,000 hectares and their yield should be increased to 40 or 50 quintals per hectare.

High goals have to be attained in sugar beet, cotton, potato, vegetable, and fruit growing and in viticulture.

On the basis of the strengthening of the feed base, specialization and concentration, and improvement in selection-pedigree stockbreeding it is necessary to accelerate the intensification of animal husbandry. In this sector right now it is also necessary to obtain the basic increase in output through a rise in farm productivity, that is, to raise milk yields per cow to 2,050 kg and planned weight gains in livestock, by 12 percent and to bring the average delivery weight in cattle up to 400 kg, in sheep, up to 40 kg, and in hogs, up to 100 kg.

Significant changes for the better must be attained at the agroprom's processing sectors. It is necessary to expand the assortment and to improve the quality of articles of the food industry, to produce foodstuffs worth 10 million rubles in excess of the plan now, and to expand the base for the storage of potatoes, vegetables, and fruits.

To mobilize the efforts of APK workers for a practical realization of what has been envisaged is the duty of the republic's Gosagroprom, agroproms of oblasts, RAPO, and party organizations of sovkhozes, kolkhozes, and agroindustrial enterprises. It is important to see to it that during the year of the 27th CPSU Congress and the 16th Congress of the republic's Communist Party collectives of all farms and enterprises not only fulfill, but also overfulfill, the plans and obligations for the production and procurement of grain, meat, milk, potatoes, vegetables, and other products and for the output of high-quality foodstuffs.

Actively joining in work, the republic's Gosagroprom is undergoing a serious test. Everything must be done so that with its establishment the guidance of the agroindustrial complex is improved, the level of management rises, and problems concerning the realization of the Food Program are solved more efficiently.

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AGRO-ECONOMICS AND ORGANIZATION

BRONSSTEYN ON NEED TO APPLY RESOURCE-NORM METHOD IN APK PLANNING

Moscow SELSKAYA ZHIZN in Russian 16 Jan 86 p 2

[Article by Mr. Bronshteyn, corresponding member of the Academy of Sciences of the Estonian SSR: "Norms in Practice." Passages in upper case are published in boldface in the original text.]

[Text] THE MASTERING OF THE RESOURCE NORM METHOD OF PLANNING AND STIMULATION IN ALL BRANCHES AND AT ALL LEVELS OF THE AGRO-INDUSTRIAL COMPLEX [APK] IS THE MOST IMPORTANT PATH TO INCREASING THE PRODUCTION OF FOOD PRODUCTS WITH THE SMALLEST EXPENDITURES.

In the 1970's, the system of material incentives was directed first and foremost at the fulfilment and over-fulfilment of production plans. The previously-achieved level was the initial basis for planning. Having overfulfilled the planned task, the farms were granted a 50 percent supplement to the purchase price. The idea was correct--society needs additional production. But when in the Estonian SSR an economic evaluation of resource potentials (land, assets, the work force) was conducted by rayon and farm, they came across a paradox--out of the ten farms which had overfulfilled their governmental tasks, only three utilized their resource potential above the average normative level. The existing system of evaluation and stimulation has "prompted" the unveiling of understated plans and overstated resource requirements.

In the 1980's, especially after the May 1982 Plenum of the CPSU Central Committee, a definite "readjustment" of the economic levers and stimuli occurred. The general increase in purchase prices strengthened the role of self-financing sources and stimuli in expanded reproduction. The introduction of a supplement to the purchase price was supposed to guarantee compensation to low-profit and unprofitable farms for unfavorable natural and economic conditions.

But at what cost? The absence of normative-base economic evaluation of land and other elements of resource potential, and also the stability of the planned-level approach, have led to the previously-achieved level of agricultural production becoming in fact decisive in a number of places. Along with those farms finding themselves in unfavorable conditions, the ones who work poorly have also received a distinctive "prize", and paying off the "prize" has become possible only by "punishing" effectively functioning farms.

The way out is suggested in the draft of the new edition of the Program of the CPSU: "The entire system of management must be directed at increasing the contribution of each section of the national economy in the achievement of the end goal--a more complete satisfaction of the society's needs with the smallest expenditures of all types of resources. This is the indisputable law of socialist management and the primary criterion for the evaluation of the activity of branches, associations, and enterprises, and of all production units."

We must also base the system of the economic management of the agrarian sector on this primary criterion, taking into account, naturally, certain of agronomy's peculiarities. Society can and must compensate for unfavorable natural conditions, but not for an inferior level of management. IT IS NECESSARY TO RECONSTRUCT THE ENTIRE SYSTEM OF PLANNING AND STIMULATION ON A RESOURCE-NORM BASIS. THE NEED TO EXPAND THE RESOURCE-NORM APPROACH IN ECONOMIC RELATIONS AT ALL LEVELS OF THE APK HAS BECOME IMMINENT. This requirement is clearly set down in the draft of the Basic Guidelines for Economic and Social Development. Prices must reflect the level of expenditures responding to social necessities and also the quality of production and not overstated individual expenditures. UNIFORM PRICES meet such a requirement. A single purchase price for output of identical value will establish an economic guideline and stimulus for the efficient distribution of production.

THE FIRST AND NECESSARY STEP ON THE PATH OF PERFECTING PRICE FORMATION WOULD APPEAR TO BE THE INCLUSION OF THE SUPPLEMENTS (ACCORDING TO THE PREVIOUSLY-ACHIEVED LEVEL AT THE END OF THE 11th 5-YEAR PLAN) WITHIN THE BASIC PURCHASE PRICE. THE ASSIGNMENT OF SUPPLEMENTS IS ALSO POSSIBLE WITHIN THE ADMINISTRATION OF THE APK TERRITORIAL ORGANS. They will constitute an essential financing resource for the regulation of economic and social processes.

The experience of financial regulation using the centralized funds of the rayon agro-industrial association [RAPO] has been amassed in the Estonian SSR. It has demonstrated a high effectiveness. The taking-in-hand of the farms lagging behind was made possible within short periods of time and with significantly lower expenditures on a resource-norm basis.

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AGRO-ECONOMICS AND ORGANIZATION

PLANS FOR IMPROVEMENT OF APK ECONOMIC MECHANISM OUTLINED

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[Editorial: "Improving the Economic Mechanism in the APK (Based on materials of the 5 April 1986 CPSU Central Committee conference)"]

[Text] In the Political Report of the CPSU Central Committee to the 27th CPSU Congress, which was given by General Secretary of the CPSU Central Committee M. S. Gorbachev, the course aimed at the acceleration of our country's socioeconomic development and the improvement of production relations, which was advanced at the April 1985 Plenum of the Central Committee, received its further profound and complete development.

The 27th CPSU Congress posed the task of guaranteeing in the 12th Five-Year Plan the increase in the gross output of agriculture as compared with the past five-year plan by 14-16 percent; and the increase in the volume of production in the food and the meat-and-dairy branches of industry by 18-20 percent. In 1990 the gross harvests of grain must be increased to 250-255 million tons; production of meat (in slaughtered weight), to 21 million tons; and milk, to 110 million tons. It will be necessary to increase significantly the production of other output also. In order to reach these goals, it is necessary as a minimum to double the rates of increase of output. This is no easy task, but it is a feasible one. The party will continue to reinforce the material-technical base of the APK [agroindustrial complex -- hereinafter AIC]. The main thing now is to make effective use of the existing production potential.

The increase that was planned by the congress for the economy growth rates will be carried out on the basis of complete intensification and the broad introduction of the achievements of scientific-technical progress. A very important factor in the acceleration is the improvement of the system of administration and of the economic mechanism of management.

The management mechanism is a multilevel concept. It is primarily a system of planning and the criteria for evaluating the activity of kolkhozes and sovkhozes, enterprises and associations, the system of legal acts and contractual relations, the providing of economic incentives for production, its financing and provision with credit, the providing of material incentives to the workers, and their responsibility for the quality of labor.

The congress posed the task of the thorough reorganization of the economic mechanism, the creation of an integrated, flexible system of administration that makes it possible to implement more completely the capabilities of socialism. At the present time the situation is such that it is impossible to limit ourselves to partial improvements. "...What is needed," M. S. Gorbachev emphasized, "is radical reform. Its meaning lies in assuring the actual subordination of our entire production to social needs, to the satisfaction of people's needs, the directing of administration toward the increase in effectiveness and quality, toward the acceleration of scientific-technical progress, and toward the development of the self-interestedness of the workers in the results of the labor, initiative, and socialist enterprise in every link of the national economy, and primarily in the labor collectives."

In conformity with the principles enunciated by the CPSU Central Committee, the administration of our country's agroindustrial complex is undergoing a fundamental reorganization. In the center and in the outlying areas, new, single administrative agencies of the AIC have begun operating. They have been staffed with well qualified cadres. A statute governing these agencies has been approved. USSR Gosagroprom [State Agroindustry] and its local agencies have been given the responsibility of building up the production and purchases of agricultural output and the guaranteeing of its intactness and processing, and the responsibility for the most complete satisfying of the public's needs for food products and industry's needs for agricultural raw materials.

The party has always paid a large amount of attention to the agrarian sector of the economy. After the May 1982 Plenum of the CPSU Central Committee, a lot was done to develop the material-technical base of agriculture and the branches linked with it. As a result the economic status of the kolkhozes and sovkhozes was strengthened and there was an increase in the productivity of the fields and the animal farms. But that which was achieved, as was noted at the congress, does not yet satisfy our needs. The overcoming of the lag in agriculture is still proceeding slowly. Certain oblasts, krays, and republics are using relatively ineffectively the available production and scientific potential, and the harvest yield of the fields and the livestock productivity continue to be low. The output-processing sphere is insufficiently developed.

The methods and practice of planning and of providing economic incentives, which have developed under the conditions of the departmental dispersion of the branches, do not meet present-day requirements. They insufficiently orient the local Soviet and economic agencies, kolkhozes, sovkhozes, and other enterprises and organizations in the AIC toward the more effective use of the available opportunities for building up the food-supply resources, improving the storage and processing of the output, and the reduction of its losses at all stages in the technological process, and for the successful resolution of the problems of the social reorganization of the rural areas.

Proceeding from the real state of affairs, the party has defined a group of fundamental problems, the resolution of which means a sharp turning point in the economic and organizational activity of the agroindustrial complex, and in the improvement of production relations.

Guided by the decisions of the congress, the CPSU Central Committee and the USSR Council of Ministers adopted the decree entitled "The Further Improvement of the Economic Mechanism of Management in the Country's Agroindustrial Complex." In that decree the principle concerning the creative use of the Leninist idea of the food tax as applicable to present-day conditions, which principle was advanced in the Political Report of the CPSU Central Committee to the 27th CPSU Congress, received its implementation. It is a matter of the more complete use of the mechanism of commodity-monetary relations. The ignoring of their effect upon the increase in the self-interestedness of the workers and the ignoring of the effectiveness of production has weakened cost accountability.

It is planned to create those economic conditions under which the kolkhozes, sovkhozes, and other enterprises in the agroindustrial complex would be self-interested in increasing the production of the output that is needed by society and in improving its quality so that, in this way, they would have more income and could conduct their economic activity on the principles of the ability to pay one's own way and of self-financing. It will be necessary to increase the authority of the plan and the role of the socialist market, and to make more effective use of the entire arsenal of commodity-monetary relations and such economic levers as price, credit, profit, and profitability.

The decisions of the party with regard to the improvement of administration and the mechanism of management are aimed at accelerating the development of the productive forces of the agroindustrial complex. With regard to their scope and depth of effect, these measures are of great economic and political importance and enrich the party's agrarian theory.

The purpose of improving the economic mechanism is, by intensifying the centralization of management in the basic sectors, to create the conditions for the broad application of economic methods of administration and to decentralize some of the functions, transferring their fulfillment from the center to the outlying areas, but, most importantly, to increase the independence of the enterprises and organizations, to give them room for economic maneuvering, for initiative and socialist enterprise, and to guarantee the optimal combination of the state interests with the interests of the enterprises, labor collectives, and the individual workers.

The central role in the implementation of these goals must be played by the improvement of the planning of production, the changeover to the more progressive normative method. That means that the planning at all levels must be carried out with a consideration of the economic evaluation of the land and the rate of provision with production assets and with labor and other resources. Experience in such planning has been accumulated in a number of oblasts and krays of the RSFSR, the Soviet Baltic republics, Belorussian SSR, and Ukrainian SSR. Now it will be necessary to assimilate that system in the country's entire agroindustrial complex.

USSR Gosagromprom, together with USSR Gosplan and VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin], has developed norms which will be

employed when forming the plans at the union and republic levels. At the same time, urgent steps are being taken to assure, by using the efforts of the economic-planning and land-use services with the participation of the zonal scientific-research institutions and higher educational institutions, the extension of the work to create norms as applicable to the specific natural and economic conditions in the management of each oblast and each rayon. The preparation, on this basis, of scientifically substantiated, equally strenuous plans will be of great mobilizing importance.

A fundamentally important factor is the conversion to plans for the purchases of grain which are stable for the individual years of the 12th Five-Year Plan and which are at the level of the 1986 plan. A 100-percent price markup is being established for the sale of grain in excess of the average-annual level of the 11th Five-Year Plan (provided the state plans for sale of grain have been fulfilled). This has created a good incentive for the fulfillment of the plans by the farms and for the increase in their income. Realistically speaking, what does it provide?

Take, for example, Altay Kray. The kolkhozes and sovkhozes during the past five-year plan, in exchange for their sale of grain, received an average of 271 million rubles a year. If the plan for the current year is fulfilled they will receive, according to computations made by specialists, 570 million rubles, including 170 million as a result of markups on the purchase prices. The level of profitability of production of grain will reach 110 percent. For the country as a whole, if the plan for the sale of grain is fulfilled, the kolkhozes and sovkhozes will receive additionally more than 1.3 billion rubles (in annual terms). This is a major incentive for the increase in production and its sale to the state. The kolkhozes and sovkhozes during the current year must already do everything to increase the production of grain, paying special attention to the growing of grain crops in accordance with intensive technological methods. The farms that have overfulfilled the plans for sale of grain to the state will be able to buy, by way of an incentive -- in addition to their assets -- motor vehicles, tractors, and other material resources in increased demand.

It is planned not only to carry out steps to encourage the production of grain, but also to increase the responsibility for its effective use. This is very important. The fact of the matter is that, in a number of places, the plans for production and procurement of crude and succulent fodders are not being fulfilled, and the shortage of those fodders is being covered by the increasing expenditure of grain for fodder purposes. In Yaroslavl Oblast, for example, in the structure of fodders for dairy animal husbandry, the share of hay during the past 15 years has been reduced to less than one-half and the share of pasture fodders is now two-fifths of what it used to be, whereas there has been a doubling in the share of concentrates. But the dairy productivity of the cows has dropped by 500 kilograms. There is a large expenditure of concentrates per quintal of milk in Kemerovo, Sverdlovsk, and Irkutsk oblasts, Uzbek SSR, and Azerbaijan SSR.

At the present time the complete responsibility for providing animal husbandry with protein-balanced fodders and for their efficient use is placed on the agroindustrial committees. Beginning in 1987 the volumes of production

of combined fodders and protein-vitamin additives, and their variety, will be determined by the Councils of Ministers of the union republics with a consideration of the recommendations made by the local Soviet and economic agencies, and the broad involvement, for producing that output, of the local raw-material resources of the kolkhozes, sovkhozes, and other agricultural and industrial enterprises. New norms for the expenditure of fodders are being developed; those norms will assure the reduction of the expenditures of grain for the production of a unit of output in animal husbandry. For purposes of increasing the self-interestedness of the local agencies in increasing the production of fodder protein, it has been established that fodder yeast, meat-and-bone meal, whole-milk substitute, and other industrially produced high-protein fodder additives that have been produced in excess of the plan by enterprises situated on the territory of the oblast, kray, or autonomous or union (without oblast subdivision) republic will remain completely at their disposal.

It will be necessary to intensify the work of increasing the production of vegetable protein. In the current five-year plan it is necessary to double the gross harvests of crops in the pea and bean family, to expand the haying areas of alfalfa and clover, to raise the harvest yield and increase the production of sunflower seeds and soy grain. In order to increase the self-interestedness in this on the part of the kolkhozes, sovkhozes, and other agricultural enterprises growing sunflowers and soy, as well as sugar beets, beginning in 1986 new norms will go into effect for them with regard to the bartering of their produced output for combined fodders, oil cakes (oilseed meal), oilseed and sugar beet residues, and molasses. In the current year, in exchange for sunflower seeds and soy grain, provided the established plans have been fulfilled, the farms will receive approximately one million tons of oil cakes and oilseed meal. This will considerably increase the degree to which they are provided with protein fodder additives.

A large reserve is the growing of rape. In Lipetsk, Ivano-Frankovsk, Minsk, Moscow, and Omsk oblasts, many kolkhozes and sovkhozes are producing rape seeds at the rate of 20 or more quintals per hectare. In addition to oil, this also represents oilseed meal -- 10-12 quintals per hectare of rape sowings. However, the farms in Estonia, Latvia, Lithuania, Belorussia, and the oblasts of the Nonchernozem Zone of the RSFSR, where the soil and climatic conditions favor the growing of rape, little attention is devoted to this crop.

The decree has planned steps to assure the considerable increase in the self-interestedness and responsibility of the local agencies for increasing the production of food products and increasing the supplying of them to the public. Beginning in 1987, the plans for state procurements of livestock and poultry, milk, eggs, potatoes, fruits, vegetables, berries, table grapes, and dried fruits will not be subdivided to the level of the union and autonomous republics, krays, or oblasts. Plans are being established for them for shipments of these types of output to the nation-wide fund and the republic fund (or for a subsidy from them). Moreover, the level of shipments is planned to be firm throughout the individual years of the five-year plan. It has been deemed desirable to leave completely in the outlying areas the resources of meat, milk, and other output after the fulfillment of plans for

shipments into those funds.

Average Annual Volume of Gross Output  
of USSR Agriculture (in comparable 1973 prices),  
billions of rubles

1961-1965	1966-1970	1971-1975	1976-1980	1981-1985
82.8 (100%)	100.4 (121.2%)	113.7 (137.3%)	123.9 (149.6%)	131.0 (158.2%)

The problem that continues to be the most acute one is the problem of providing the public with meat and meat products. By 1990 we must achieve a per-capita consumption level of 70 kilograms. The volume of production of meat (in slaughtered weight) during the five-year period must be increased by 3.9 million tons. This is an extremely complicated task. The chief way to resolve it is the intensification of animal husbandry on kolkhozes and sovkhozes.

At the same time it is necessary to make much better use of the opportunities available to the subsidiary agricultural plots of enterprises and organizations. There exist throughout this country a large number of examples in which those farms at industrial enterprises produce a considerable quantity of meat and milk. For example, Glavtyumengazprom has created nine such farms, which in 1985 produced, per worker (of which there are approximately 70,000), almost 26 kilograms of meat and 69 kilograms of milk. However, a small quantity of meat and other products is still being produced in the subsidiary farms at industrial enterprises in Odessa and Kuybyshev oblasts, and a number of other oblasts. It is necessary to intensify the organizing work to fulfill the party's requirements with regard to this question.

Considerably more meat and other output for local supply can almost be obtained by relying on the citizens' private plots. In the decree it is noted that, as a component part of socialist agricultural production, the citizens' private plots, by relying upon the assistance provided by the kolkhozes and sovkhozes, have been called upon to satisfy more completely the needs of the rural residents for meat, milk, eggs, potatoes, fruits, vegetables, and other food products, and to sell any excess through the cooperative trade system or at the kolkhoz market.

However, in certain oblasts and republics there has been an underestimation of the opportunities provided by the personal plots of the rural residents, and little assistance is provided to them. That is the only way that one explain the fact that in Ryazan, Gorkiy, Ulyanovsk, Kherson, and Mogilev oblasts and in certain other regions the production of meat and milk on the personal plots has even dropped during the past ten years.

In order to combine more closely the interests of the socialized farms and the personal plots, it has been deemed desirable to consider their needs in the financial and production plans of the kolkhozes and sovkhozes. The meat

produced on those farms and sold to consumer cooperatives will be offset in the purchase plans for kolkhozes and sovkhozes, and with a consideration of that they will begin to receive markups for exceeding the established level. Every kolkhoz and sovkhоз has a self-interest in assuring that the personal plots produce more output, and must help to provide them with fodders, must sell more young animals to them, and must improve the organization of the acceptance and shipment of their output.

An important reserve for the considerable supplementing of our country's food-supply resources is the increase in the production of fruits and vegetables and potatoes. The opportunities for producing a sufficient amount of potatoes and vegetables exist in practically every oblast, kray, and republic, but in a number of places the people have lost interest in the growing of those kinds of produce, preferring instead to ship them in from the outside. One cannot reconcile oneself to the fact that on the farms in Kursk Oblast the potato harvest is only 52 quintals per hectare; Ivanovo Oblast, 67; Orel, 70; Ryazan, 78; and Kaluga, 81 quintals per hectare. During the past five-year plan cabbage was shipped into Ivanovo and Vladimir oblasts; and onions were shipped into Yaroslavl and Gorkiy oblasts. As a rule, the fruit vegetable produce must be produced locally in order to assure the complete satisfaction of the public's needs for them. All the conditions exist for correcting the situation that has developed. The only thing required is to engage realistically in this matter and to refuse to assume a dependent's attitude.

It is necessary to take decisive steps to increase the harvest yield of potatoes and of vegetable, fruit, and berry crops. In order to increase people's self-interestedness and to prevent losses of produce, the kolkhozes, sovkhozes, and other agricultural enterprises are now authorized to sell to organizations in the consumer cooperative system or at kolkhoz markets, with an offset to plan fulfillment, of up to 30 percent of the planned volume of purchases of potatoes, fruit and vegetable produce, table grapes, as well as their agricultural output in excess of plan. The agroindustrial committees are granted the right to establish the retail prices of perishable produce, as well as incentive prices for individual edible commodities made of fruit or vegetable ingredients (jams, juices, confections, canned goods) that are sold in the stores that are subordinate to them.

Thus, in the outlying areas, on the kolkhozes and sovkhozes, conditions are being created for increasing the production of agricultural produce, and the channels for selling it have been expanded.

Under the new management conditions there has been a considerable increase in the role of the consumer cooperative system, and an increase in its retail commodity turnover. It is important for the republic and local organizations in the consumer cooperative system, and for Tsentrsoyuz, guided by the decree of the party and the government, to take steps immediately to organize the conclusion of long-term contracts for purchases of produce at kolkhozes and sovkhozes and from the public, and to guarantee the reinforcement of the procurement and trade network. The consumer cooperative system must occupy firm positions at the kolkhoz markets and must exert an active influence upon reduction of prices. For vegetables the purchases will constitute 5 million tons; for potatoes, 3 million tons; and for meat, 1.3 million tons.

This will be a good support for improving the rate of supplying the cities and rayon centers with these products.

It should be especially emphasized that it is necessary to adhere strictly to the right granted to the farms, to sell output produced in excess of plan to the consumer cooperative system and at markets.

It should be noted that the purchase of meat products from the public and the cooperative trade in those products have been rather well organized, for example, in Omsk, Volgograd, Belgorod, Kurgan, Vinnitsa, and Lvov oblasts and certain other oblasts. At the same time, in Kursk, Tula, and Perm oblasts, less than 10 percent of the meat produced on the citizens' private plots is being sold through the consumer unions. The resources of grapes, fruits, and vegetables have been involved only insignificantly in cooperative trade in the Central Asian and trans-Caucasian republics and in Moldavian SSR. Those organizations procure small amounts of mushrooms and berries. The network of processing enterprises in the Tsentrrosoyuz system is also insufficient.

Average Annual Volume of Gross Output  
of USSR Agriculture, in Percentages

1981-1985	1986-1990
100	114-116

Gross Harvest of Grain, Million Tons

1980	1990
189	250-255

The CPSU Central Committee and USSR Council of Ministers recently enacted the special decree entitled "Steps for the Further Development of the Consumer Cooperative System." That decree defines the tasks for all the sectors in the development of that system. The improvement of the economic mechanism in our country's agroindustrial complex opens up broad opportunities for the successful resolution of those tasks and for the complete improvement of the activity in the consumer cooperative system.

The carrying out of the large-scale tasks posed by the 27th CPSU Congress for the workers in the agroindustrial complex can be most successful only if there is a considerable intensification of the rate of labor participation and the self-interested attitude of each worker, kolkhoz member, specialist, and manager toward the job that has been assigned. We can achieve this if, in our practical activity, we not only rely upon the enthusiasm of the rural workers, but also make skillful use of a system of material incentives which would guarantee the combination of the personal interests with the interests of the

collective and society as a whole. In other words, it is necessary to intensify the work of improving the organization of production, and of introducing cost accountability and the collective contract.

"True cost accountability, the dependence of the enterprise's income upon the final results," it was noted in the Political Report of the CPSU Central Committee to the 27th CPSU Congress, "must become the norm for all links in the agroindustrial complex, and primarily the kolkhozes and sovkhozes." USSR Gosagroprom is posing the task, within the next two years, of converting basically all the kolkhozes and sovkhozes to complete cost accountability. Under the new conditions, cost accountability, contract forms of organizing and paying labor, production costs, price, and profitability are becoming the chief levers of administration.

In recent years a definite amount of work has been done to introduce cost accountability and the collective contract on kolkhozes and sovkhozes. At the present time every third kolkhoz and every fourth sovkhоз guarantees a profitability of more than 25 percent, and every tenth farm, more than 40 percent. In Estonia, Latvia, Lithuania, Moscow, Leningrad, Lipetsk, Chernovtsy, Grodno, and Brest oblasts, and in certain other oblasts there are no longer any farms operating at a loss. Hundreds of thousands of brigades, animal farms, sections, shops, and production sectors are operating on the basis of cost accountability within the farm.

At the same time, on many kolkhozes and sovkhozes, a formal approach has been taken in introducing cost accountability and the collective contract, accounting is poorly organized, and the payment of the labor is poorly linked with the final results. As a result there has been an increase in the expenses for the production of output. In the 11th Five-Year Plan, in terms of 100 rubles of gross output of agriculture, those expenses grew noticeably.

There is still a large percentage of farms which incur losses in the production of potatoes, beef, veal, pork, and lamb. An analysis indicates that on those kolkhozes and farms there has been no intrafarm specialization or concentration of production; there is a poor return on the use of fertilizers and reclaimed land; unsatisfactory use is made of the equipment, fodders, and other resources; the level of organization of labor and discipline is low; and poor business practices are allowed to occur.

We cannot continue in this way any more. It is necessary to stop the growth of expenditures and to guarantee a reduction in the production costs. The path to a reduction in the costs of output on the fields and the animal farms lies through the creation of an integrated, effective system of management. In order to make the conversion to a self-sustaining basis, it is necessary for all the production sectors on the kolkhozes and sovkhozes to be converted to cost accountability, to have their own assignments for quantity and quality of output and their own limits of expenditures for producing it, and for them to know what compensation they will receive for the final results. It is necessary not only to provide incentives to the labor collectives for the results of their work, but also to stipulate their material responsibility for poor business management and for the overexpenditure of resources per unit of output. The mechanism for exerting an effect upon these processes has been

stipulated by the decree: for an economizing of the direct expenditures, the farm will be paid as much as 70 percent of the economized funds by way of an incentive, but in the event of exceeding the established expenditures the overexpenditure will be compensated for from the funds allocated for the payment of wages and bonuses to the collectives.

The further improvement and deepening of cost accountability is inseparably linked with the conversion of the kolkhozes and sovkhozes to the shop structure of administration. This makes it possible to form primary cost-accountable subdivisions that possess broad independence in carrying out economic operations, and that are capable of effectively applying the latest technology and progressive technological methods, and on that basis of producing more output with fewer expenditures.

Cost accountability is not only the saving of resources, but also the strict commensurability of expenditure with income, its optimal distribution to the accumulation and consumption funds. Unfortunately, in recent years the farms in many oblasts and republics have been channeling a large part of the increase in income into the consumption fund. On kolkhozes in Uzbekistan, for example, the growth rates for deductions paid into the consumption fund are twice the growth rates for accumulations. On kolkhozes in Tajikistan 86 percent of the income is channeled into the consumption fund -- this is more than the average for the country as a whole.

Many kolkhozes and sovkhozes channel the income received as a result of the markups on purchase prices not into the development of production, but into consumption, and primarily into the payment of labor without taking into consideration the increase in its productivity. In Turkmen SSR, for example, the average wages paid for labor on kolkhozes operating at a loss are 20 percent more than on kolkhozes where the level of profitability is 15-20 percent.

A number of farms regularly increase the size of the administrative apparatus and the expenses for maintaining it. For example, on the Leninbaydag Sovkhoz, Ashkhabad Oblast, during the past five years the size of the administrative staff has increased by a factor of 1.7, and the expenses for maintaining it have more than doubled. Moreover, the volume of production of output per terms of an individual worker in the administrative apparatus was reduced by one-third.

A group of farms that have received markups on the purchase prices not only failed to improve their economic position, but also, by sharply increasing the payment of labor and other expenses, have even worsened that position. For example, the 40 Let Uzbekskoy SSR Sovkhoz, Karakalpak ASSR, was paid in the form of markups on purchase prices for agricultural output 510,000 rubles. Nevertheless the losses on that farm increased by 550,000 rubles.

Production of Meat (In Slaughtered Weight),  
Million Tons

1980	1985	1990
15 (100%)	17.1 (114%)	21 (140%)

Milk Production, Million Tons

1980	1985	1990
90.6 (100%)	98.2 (108.4)	106-110 (117-121.4%)

These methods of management are unacceptable. It is necessary to observe strictly the proportions between consumption and accumulation, between the increase in the payment of labor and its productivity.

In order to improve the economic situation on the lagging farms, it is necessary to make broader use of the experience of the advanced kolkhozes and sovkhozes that have achieved high economic indicators on the basis of cost accountability and the collective contract. For example, the Kolkhoz imeni Kalinin, Zaporozhye Oblast; the Stepnoy Sovkhoz, Kalmyk ASSR; and the Nazarovskiy Sovkhoz, Krasnoyarsk Kray are situated under different natural and climatic conditions, but from year to year have been guaranteeing a high profitability level. On the Kolkhoz imeni Kalinin, where the quality of the land is the lowest in the rayon, the output of produce per hectare is 11 percent more than the average for the rayon. Moreover, on that farm the production costs are 30 percent lower, and the labor productivity and profitability level are respectively 33 percent higher and twice as high. Such exemplary farms exist in all republics, krays, oblasts, and in many rayons. On those farms, as a rule, the shop system of administration and an efficient production structure have been introduced, precise intrafarm planning has been organized smoothly, accounting and economic analysis have been well established, and the system of payment of labor is closely linked with its final results. Their experience should be introduced dynamically and consistently.

The decree concerning the improvement of the economic mechanism has planned fundamental changes in the system of providing material incentives to the kolkhoz members, sovkhoz workers, and the managers and specialists on the farms and at RAPO [rayon agroindustrial associations] and the agroindustrial committees. The new economic mechanism is aimed at creating those conditions under which the effectively operating farms will have a better opportunity to pay the labor of their workers and to build housing and structures designed for everyday, social, and cultural purposes, and to resolve other social questions more successfully.

The agroproms [agroindustrial committees], RAPO, and the managers of kolkhozes

and sovkhozes must, within the next two years, achieve a situation in which the collective contract has begun the predominant form of organization and payment of labor. In the republics, krays, and oblasts there are a rather large number of examples of the skillful use of contract principles. Moreover, for the country as a whole, in the contract collectives the harvest yield of grain crops was 16 percent higher; the average daily increases in the fattening and breeding of livestock were 22 percent higher; and in the fattening of hogs, 14 percent higher. Their labor productivity is higher by a factor of 1.5. As can be seen from the data that was cited, tremendous reserves for increasing the economy lie in this progressive form of organizing and paying labor.

At the same time the new management mechanism requires us to go farther and to deepen the contract principles. This is a matter of changing over more boldly to the payment of labor from the gross income. Moreover the cost-accountable assignments for the primary labor collectives should consist of the minimum of indicators: planned volume of output; expenditures for producing it; and a quota for deductions to be taken from the conventionally gross income for the payment of labor. It is precisely this form which is the most resistant to expenditures and which closely links the providing of material incentives with the level of labor productivity and the economizing of material resources. The high effectiveness of this approach is also confirmed by the results of the work performed on a number of farms throughout the country.

For example, on the Za Mir Kolkhoz, Lithuanian SSR, during the very first year of the introduction of this form of payment of labor, the production of output increased by 11 percent; production costs dropped by 4 percent; the expenditure of fuels and lubricants dropped by 14 percent; and the expenditure of spare parts by 34 percent. The Kazminskiy Kolkhoz, Stavropol Kray, has been using the payment of labor from the gross income for ten years already, and during that time it has achieved high indicators: during the 11th Five-Year Plan alone, as compared with the 10th, the volume of production of gross output increased by a factor of 1.7; labor productivity, a factor of 1.5; and gross income doubled, with an increase of 40 percent in the payment of labor.

At the same time it should be noted that in a number of oblasts and republics the proper attention is not being paid to the introduction of progressive forms of the organization and payment of labor. For example, in Kaluga Oblast 70 percent of the plowland has been assigned to the contract collectives. However, in 1985 the harvest yield of grain crops was only 11.9 quintals per hectare, and potatoes, 109 quintals per hectare. The economic efficiency of the kolkhozes and sovkhozes there continues to be low. The question arises: why has the introduction of the collective contract in the oblast not been accompanied by a corresponding increase in output, by a considerable improvement of the economic indicators? The fact of the matter is that many farms have failed to observe the principles of the contract, have failed to concur with the contract terms, and the brigade leaders and team leaders have been granted only limited rights in resolving questions pertaining to economic operations. On a number of farms the production norms and the payment rates per unit of output were determined incorrectly. Serious miscalculations were made in the payment of labor: on some farms that payment continued to be

computed on the basis of the volume of the operations fulfilled, and on others the process of pay equalization flourished.

Situations such as this exist on the farms of Turkmen SSR and in Semipalatinsk, Voronezh, and Kurgan oblasts, and a number of other oblasts.

Cost accountability and new progressive forms of the organization and payment of labor are most effective wherever supervision of the expenditures has been set up well. The use of checks in making reciprocal settlements, as has been shown by experience, is the best method of this supervision. And it is important to introduce it everywhere.

The steps stipulated in the decree concerning the improvement of the economic mechanism require the reinforcement of the economic services and the improvement of economic-planning work at all levels of administration.

In the field of capital construction the most important tasks are the further increase in the effectiveness of capital investments; the channeling of those investments into the resolution of the first-priority needs for the development of production, processing, and storage of agricultural output and into the remodeling and technical re-equipping of the existing enterprises; the guaranteeing of the construction of projects in strict conformity with the established deadlines; and the acceleration of the social reorganization of the rural areas as a very important factor in the creation of stable labor collectives.

In the use of capital investments there has been a considerable expansion of the rights granted to the administrators of enterprises and organizations in the agroindustrial complex. Beginning with next year, all the indicators in the capital construction plan will be determined by the sovkhozes and other state enterprises and organizations within the limits that have been established for them for capital investments and construction-and-installation operations; and by kolkhozes with a consideration of those same indicators that are supported by material-technical resources. They will all be granted the right independently to develop (order) planning and estimate documentation for the technical re-equipping and remodeling of uncomplicated production objects, and also to coordinate the standard plans for buildings and structures, housing, and other structures intended for social and everyday purposes.

The rights that have been granted and the independence in the area of construction impose a large amount of responsibility on the managers of the kolkhozes, sovkhozes, and other state enterprises and organizations in the agroindustrial complex. As a rule, the construction of the farm must now be carried out at the expense of its own funds. The chief attention must be paid to improving the organization of the job at hand, reducing the volumes of uncompleted work, making broad use of local building materials, and reducing the cost of the projects. The creation of single construction organizations and the subordination of them to the RAPO and to the agroindustrial committees of the oblasts, krays, and republics are opening up broad opportunities for a considerable increase in the effectiveness of construction, the expansion of

the scope of the work to create a powerful infrastructure for the agroindustrial complex and the social development of the rural areas.

At the present time, for the most part, the organizational restructuring of the administration of the agroindustrial complex at all levels has been completed. The new agencies are picking up speed. Many of them are actively carrying out work to improve the management style and methods. However, the opportunities that are opening up are being used effectively by no means everywhere. In a number of oblasts, for example, Saratov Oblast, the associations in the meat, dairy, and food industry, the construction associations, etc., practically speaking, have been preserved. Thus, the department interests continue to manifest themselves in the new formations of the agroindustrial industry. Shyness and indecisiveness in reorganizing the administration are typical of a number of oblasts in the RSFSR, the Ukraine, Uzbekistan, and certain other republics. If this situation continues, one cannot guarantee the realistic and effective integration of agriculture and the branches of industry that are linked with it. And it is precisely this that contains the main meaning of the entire organizational restructuring and those tremendous advantages that it must provide.

Large reserves exist here. For approximately a year the Kuban Agroindustrial Combine has been in operation. Its makeup includes kolkhozes, sovkhozes, a meat-processing plant, dairy and canned goods plants, baked goods enterprises, and construction and trade organizations. Their entire activity has been subordinated to the final result. As a result there has been a noticeable improvement in the quality of the output, a reduction in the production costs, and a reduction in the losses. The losses of meat, for example, were 170 tons less than the normative losses; and the losses of sugar beets, 9300 tons less. The total amount of the saving simply from the reduction of output losses exceeded 2.8 million rubles.

For everyone today it is important immediately to complete the reorganization, to unite the interests of the kolkhozes and sovkhozes, and the processing and service enterprises within the framework of the RAPO, and to subordinate them to the struggle for high final results. All the enterprises on the rayon level must be made part of the rayon agroindustrial associations.

At the oblast and republic levels it is necessary to take a broader approach to the creation of the scientific-production and production associations and systems on the basis of the advanced farms and scientific institutions. These base enterprises with high indicators, for example, for the production of sugar beets or corn, have been called upon on, a mutually advantageous basis, to transfer their advanced experience to the sovkhozes and kolkhozes in their zone.

The center of gravity in the entire organizing work must not be transferred to the farms and enterprises, to the fields, animal farms, and shops, in order to guarantee the more effective use of the land, production assets, technology, raw materials, and financial and labor resources.

In order to resolve the major tasks confronting the agroindustrial complex in the light of the decisions of the 27th CPSU Congress, it is necessary to have

a fundamental improvement in the training and retraining of personnel. It will be necessary to create an integrated system for training personnel in the mass occupations -- mechanizers, animal husbandrymen, equipment operators, and experts in machine milking -- and to help them to master progressive technological systems and the latest labor methods. This training should be organized everywhere and should be carried out regularly -- on a daily, weekly, and monthly basis. It is necessary to organize the retraining of specialists and managers and to help them to master economical methods of administration. And the existing advanced experience must be made the basis of the training.

Complicated and extremely responsible tasks confront the workers in all links of our country's agroindustrial complex. The chief efforts should be directed at the reinforcement of discipline, order, and organizational spirit in order to assure that the present year, as is required by the party, will be a breakthrough year in achieving a sharp increase in the production of agricultural output and improving the supplying of the population with food products.

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AGRO-ECONOMICS AND ORGANIZATION

RAPO MANAGERS INTERVIEWED ON STATUS OF RESTRUCTURING

Moscow EKONOMICHESKAYA GAZETA in Russian No 19, May 86 p 14

[Article by G. Vasiliyev: "The Structure is New, But the Methods ..."]

[Text] The reorganization now in progress in agroprom [agro-industrial committee] is closely linked with the change in style and methods of management. The importance of this was once again emphasized at the conference held at the CPSU Central Committee, which examined the tasks of party, soviet and economic organs to fulfill the decree of the party and government "On Further Improvement in the Economic Mechanism of Management in the Country's Agro-Industrial Complex."

I recently had occasion to visit Terektskiy Rayon in Ural Oblast. What changes are taking place in the style and methods of work at the local RAPO [rayon agro-industrial association]? What is being done to expand the initiative and independence of kolkhozes and sovkhozes and to improve the work of the service organizations? Here are opinions which the managers of a number of farms in the rayon expressed in conversations with me.

Unnecessary Surveillance

"Undoubtedly the measures outlined to improve the economic mechanism," said T. Bayetov, director of the Chaganskiy Sovkhoz, "have a beneficial effect on our work and make it possible to improve the production indicators. But already, without waiting until the moment when it will go into force, it is possible to make substantial corrections in the state of affairs. One of the ways to do this is to expand the initiative and independence of the kolkhozes and sovkhozes.

"Unfortunately, our RAPO is still slow in reorganizing its work toward the new style. As before, in addition to the plan for procuring products, they prescribe for us which area to occupy with this or that crop and how many cattle to keep. After all, this is nothing more than superfluous regimentation of our actions, which can bring nothing but harm. Really, how much grain, for example, to sow in order to fulfill the plan for its procurement is more obvious to us on the spot. Moreover, skilled specialists are now working at the farms.

"The farm must somewhat increase the areas for feed crops. There are over 5000 head of cattle at the sovkhoz. The ground given over to feed crops is clearly insufficient, and there are essentially no pastures. The RAPO management, however, does not take our argument into account. It is strange that one has to talk about this today even though it is known that this sort of practice of planning and often interference in the production affairs of the collectives has more than once been criticized."

"Indeed, there are still enough formal directives and various inquiries, which we can fully manage without," A. Feoktistov, director of the Uralskiy Sovkhoz, continued the conversation. "Incoming papers for the first quarter. What are they about? They contain requirements to present data on the number of workers, number of machines, expenditure of fuel and presence of mineral fertilizers and on the course of training the machine operators .... can one do without them? I think so, completely.

"How much better it would be if RAPO occupied itself in real earnest with a solution to the major, key problems. One of them is transition to formal acceptance of the products directly at the farms and the introduction of direct links with the trade organizations. This promises great advantages and will lead to a reduction in losses. We satisfied ourselves of this in our own experience. The sovkhoz has experienced no difficulty in selling milk for a number of years now. The local milk facility accepts and evaluates it directly at the farms. Expenses connected with delivering the products are reduced and there have been no misunderstandings in determining its quality. It is a pity that milk is accepted this way at only two farms in the rayon."

"It is no less important to establish order, as well, in the technical and agrochemical service to the farms and in ensuring the uninterrupted work of the chemical equipment," thinks B. Odintsov, chairman of the Kholkhoz imeni Chapayev. "There are still many omissions here.

"The work of the Selkhozenergo Association is particularly unsatisfactory to us. Earlier, before its formation, we had our own electricians at our establishment. Well, then the expenditures to pay for their work and for repair of the power supply networks were 12,000 rubles a year in all. But now we pay three-fold more for repair alone. Selkhozenergo try, on various pretexts, to "twist" the volumes of services, since they mainly serve as a criterion for evaluating the work of the electricians.

"In my opinion, it would be expedient to include this service in the repair-technical enterprises of RAPO, which has a strong material base. After all, it sometimes reaches the point of absurdity: two organizations service one refrigerator on a farm. The repair-technical enterprise answers for the work of the compressor, the availability of freon and the tightness of the gas line network connections, and Selkhozenergo--for reliability of the electric motors."

## They Wait for Directives From Above

During a meeting with N. Abel'tsev, chairman of the Terektskiy RAPO, I acquainted him with the content of our conversations, and with the comments and suggestions made by the farm managers.

"The great number of planning indicators and various inquiries and papers is not a whim of ours," he noted. "No fewer directives come to RAPO from the oblast agroprom, and we, in turn, are forced to bring them to the notice of the kolkhozes and sovkhozes."

Does this mean that the oblast agroprom is to blame in this? It would, perhaps, be a mistake to say this. As was revealed later from a conversation with V. Yuchkov, first deputy chairman of the Oblast Agro-Industrial Committee, the oblast agroprom also has little information reaching them on the regulatory documents. "Incoming" papers alone measure at least 200 daily.

These instances attest to the fact that at various levels the agro-industrial complex administration has still not renounced the old administrative methods, which have not justified themselves. The custom of giving a directive in any connection, fearing that something has not turned out, shows itself here. After all, the main idea of reorganization in the agro-industrial complex is to open up space for economical methods of carrying out the work. The recently adopted decree of the party and government on improving the economic mechanism in APK [Agro-Industrial Complex] was directed toward this. Unquestionably, cost accounting and collective contracting, which open up great possibilities for initiative and enterprise and assist in efficient use of funds and intensive increase of the sector, serve as abundant soil for the use of new methods.

Unfortunately, cost accounting at many farms of Terektskiy Rayon is of a formal nature. You come to this conclusion after becoming acquainted with its organization. For example, at the Chaganskiy Sovkhoz, accounting and control over the expenditure of material-technical resources are made occasionally and the workers are essentially uninterested in reducing the input.

There are also many shortcomings in the organization of collective contracting. Its basic principles are violated: in a number of farms the contractual obligations are not observed, unregulated collectives are often diverted to other sections and the contracting is not linked to cost accounting indicators. Therefore the yield from introducing it is a meager one. The rayon has not coped with the tasks of the 11th Five-Year Plan for the sale of most types of agricultural products and last year nine out of ten farms ended with a loss.

Even though the RAPO managers considered the main reason for nonfulfillment of the plans and losses to be the unfavorable weather conditions, the drought, it is still regarded as something else. Strictly speaking, the weather here had never pampered the farmers. The negative results can in many ways be explained by the poor organization of the economic work. On the farms where cost accounting is more or less organized, actually, but collective contracting has not been formally introduced, quite good results are achieved.

For example, at the Uralskiy Sovkhoz, assignments are taken to each subdivision with respect to product output and input limit, and their accounting is made daily and the outlay of materials is monitored periodically. In addition to the increase in product output from the fields and farms, the contracting brigades and units are interested in economical use of the resources allotted and efficient use of work time. To save on direct costs they obtain 40 percent of its production cost.

The interest of the workers in improving the end results and reducing expenditures has a positive effect on the economic system of the sovkhoz. They yearly milk from each cow on the farm 3,700 and more kilograms of milk, and on the average for the rayon--a total of 2,000 kilograms. Last year from the sale of their products the collective obtained about half a million rubles profit, including half of it from the sale of milk. After all, the farm is not under any particularly privileged conditions. It is simply that here they approached production organization and the expenditure of resources in a businesslike way. Money, as they say, loves to be counted.

N. Abel'tsev, RAPO chairman and V. Savchenko, his deputy for economics, cannot help but agree with this. With their approval, on the base of the Uralskiy Sovkhoz, there are plans this year to hold a rayon seminar of farm managers and specialists and to study in detail experience in introducing cost accounting and brigade forms of labor organization.

It is a good measure. It would be wished, however, that after the conference they would pursue the matter, specific measures to reinforce the economic system of the remaining farms and help for them from RAPO to introduce real cost accounting and collective contracting.

The local RAPO, to be sure, painfully shyly, declared itself as the sole territorial organ of administration and master of the resources and finances of the agro-industrial complex. For example, its managers are would-be supporters of the proposal by B. Odintsov, chairman of the Kolkhoz imeni Chapayev on transferring part of the technical service functions to the kolkhozes and sovkhozes. Nor are they against including Selkhozenergo in the repair-technical enterprise. But at the same time they temporize and allude yet again to the absence of directives from above.

Naturally it is more peaceful this way, but not better for the matter. If they continue to come out this way and if the style of work is not radically changed, they will provide few alterations in the administrative structure. In the rayon, however, as early as the first year of the present five-year plan, a noticeable increase in the production of agricultural goods has been outlined. It is planned to give the state 125,000 tons of grain alone, which is almost 20,000 tons above the average yearly level in the 11th Five Year Plan. And, indisputably, successful fulfillment of the outlined plans and improvement in the end results will depend on approval in RAPO of the business-like style of the work and introduction of economic methods of management, which open greater potentials for initiative and innovation.

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AGRO-ECONOMICS AND ORGANIZATION

INTERBRANCH SUPPORT FOR PRIVATE PLOT DEVELOPMENT ADVOCATED

Moscow EKONOMICHESKIYE NAUKI in Russian No 5, May 86 pp 45-53

[Article by Candidates of Economic Sciences S. Kiselev and A. Petrikov:  
"Interbranch Links in Private Plot Development"]

[Text] As the agro-industrial complex develops and gains increasingly more mature forms, the interbranch exchange of activity within its framework becomes one of the most important directions of agro-economic research. However, in most cases the interbranch aspect of agricultural development is analyzed as a whole. Thus far little attention has been devoted to the specific nature of a private plot's (LPKh) interbranch links. Meanwhile, it is significant and is determined, on the one hand, by the form of ownership and, on the other hand, by the nature of production: small size of plots, the simplest technical basis, participation of a large share of workers of an unfit-for-work age, and so forth. Until recently, the interbranch aspects in the development of LPKh manifested themselves poorly. Its material and technical base was formed in the main within housekeeping and within the framework of kolkhozes and sovkhozes. The output of suitable farming tools by industry was limited to a small quantity of manually used implements. The sale of production was carried out primarily by the rural population itself. Contractual relations of LPKh owners developed only with procurement organizations. LPKh was based on obsolete technologies and had a subsistence character. As a rule, only simple reproduction was ensured in the private sector, conducting an expanded one was connected with excessive intensification of manual labor. Naturally, such conditions for developing a private plot did not allow to fully utilize its potential. At the same time, they substantially lowered the quality of the rural way of life and did not promote better coordination of individual and public interests.

Solution of these problems was found in integrating the private sector with the public one and forming material reproduction conditions of LPKh on an interbranch basis. This, of course, did not lead to forming a subsidiary farm into an independent subdivision, separate from other agriculture, and establishing specialized sectors for its needs. This will also not happen in the future. However, requirements of the private sector are to a certain extent already being taken into account in the activity of all links of the APK, and in the long term it is necessary to intensify such approach. LPKh is becoming an organic part of the APK. Under such conditions the interbranch links of LPKh should as opposed to the past be made into a particular subject of study as well as regulation.

First of all, reproduction of fixed capital of LPKh requires interbranch efforts. For the most part imperfect equipment is still being used here. This substantially increases workers' overall workload and fatigue and also reduces their labor efficiency in the public sector. Spare time of the population is reduced, and a considerable part of it (particularly young people and rural intelligentsia) refuse to manage private plots. The gap in the level of means of production, which are used by the same workers in kolkhozes and sovkhozes and on subsidiary farms, is growing and this has a negative psychological effect. All-round industrialization of LPKh is becoming a vital requirement.

The wording of a task in the USSR Food Program is "develop production capacities in an accelerated manner and organize production in essential quantity for agriculture... of small-scale equipment to satisfy the requirements in it of kolkhozes, sovkhozes, and the population." (Footnote 1) ("The USSR Food Program for the Period up to 1990 and Measures for its Realization," Moscow, 1982, pp 46-47) Here the interests of the private sector closely unite with the requirements of kolkhozes and sovkhozes in small-scale mechanization, particularly for work under conditions of small contour farming. The solution of this problem contemplates establishing within the framework of agricultural machine building a complex of enterprises or shops engaged in the production of such means (small-scale tractors, motorized units, and full sets of devices and implements). (Footnote 2) (See: D. Palterovich and S. Moskvin, "Means of Small-Scale Mechanization for Agriculture," VOPROSY EKONOMIKI, 1982, No 8, p 103) This task is important not only for branches of plant growing. As applied to livestock breeding, machine building directs its efforts, first of all, toward production of mechanized equipment for large livestock breeding enterprises and takes requirements of small farms into account poorly. In many respects this situation is explained by the fact that in this branch progressive tendencies were linked for a long time primarily with construction of large complexes during insufficient attention to modernization and construction of small farms.

In our opinion, the process of LPKh industrialization must go through the same stages as in social production. Initially there is the task of mechanizing most important kinds of agricultural operations: plowing, work connected with care, harvesting crops in plant growing, and milking and procuring fodder in livestock breeding. Comprehensive mechanization of LPKh should be carried out in the future.

Industrialization in the private sector has specific difficulties and, first of all, technical ones which are due to the small volume of production output and the size of cultivated plots, while production is diversified. Gaining development in LPKh are branches such as beekeeping, rabbit breeding, and silkworm breeding, mechanization of which is limited in principle. Besides, ownership of equipment by individual families can be unprofitable. Therefore, it is particularly important at first to establish organizational prerequisites for effective use of small-scale mechanization. For this purpose the cooperation of LPKh owners is justified, experience in organizing family farms in some regions of the country (Estonia, Georgia, and Transcarpathia) is already available, and developing rental relations also provides good possibilities. Rental conditions

must be advantageous for LPKh owners and be a mandatory element of agreements between agricultural enterprises and the population. Such a system will make it possible to combine and efficiently blend operation of means of small-scale mechanization in the public and private sectors, reduce downtime of equipment to a minimum, and organize its centralized maintenance and repair. To satisfy the needs of the urban population (owners of dachas and members of garden associations) in small-scale equipment it is necessary to organize special subdivisions and rental centers within the framework of consumer services as well as to provide corresponding services to kolkhozes and sovkhozes.

All of this must not rule out the sale of small-scale equipment for private ownership to citizens and its use by one family. It would be useful to adopt normative acts, which would regulate but not restrict this process. It is expedient, in particular, to extend credit for the acquisition of small-scale tractors, motorized units, and sets of implements for them. Favorable terms for the purchase of small-scale mechanization must be used for LPKh owners, who turn out production on a contractual basis with agricultural enterprises and consumer cooperatives. During distribution of equipment by regions, preference should be given to zones which experience manpower shortage in view of high workload of the employed population.

First steps in industrializing LPKh have already been taken. The output of motorized units of 5-7 horsepower capacity complete with some agricultural implements has begun. However, the scale of production is insignificant so far and selection of associated machines is limited. At the same time, the demand for them is negligible. The price for small-scale equipment is incomparable with consumer effect during its utilization within the framework of individual subsidiary farms and necessary organizational prerequisites for collective use of such equipment have not been established.

The implementation of machine mechanization in individual production should not become an obstacle to the use of horses in LPKh. Sufficient attention is still not being devoted to this at the present time. The total amount of horses in the country has decreased from 9.9 million in 1960 to 5.7 million in 1983. The probable range of horse traction utilization in a rural area is sufficiently great--from various agricultural work to hauling loads. There are more favorable possibilities for its utilization in LPKh compared with the public sector. The use of horse traction also has other aspects--ecological and energy: does not pollute the environment and economizes scarce fuel and power resources. Expansion of horse-manual and horse-mechanized work will require an increase in the output of corresponding implements and equipment. The outdated legal restrictions on keeping horses in LPKh should also be removed.

According to an appraisal by the Tsentrosoyuz, the demand of subsidiary farms for gardening implements is satisfied by only one-fifth. In many respects this is connected with the curtailment of production in the rural areas of individual kinds of implements and the loss of the ability by the population to manufacture them. Local industry, first of all, must be aimed at expanding the output of this production.

High labor intensiveness of LPKh and insufficient development of small-scale forms of mechanization generate an urge to look for ways to reduce labor

expenditures in cultivation of land, which is used by the population, on the basis of large equipment. A part of a private plot area is included in the overall crop rotation and is cultivated together with public land. Such practice may be regarded as a new form of integration of private and public sectors, which raises coordination of interests of individual workers and the entire collective as a whole. However, the limited nature of this approach cannot be ignored. It is impossible to include in the overall crop rotation all crops that are cultivated in LPKh. It should also be taken into account that, as a rule, the land used in the private sector does not permit the use of large equipment.

One of the factors which restrains the development of LPKh and requires interbranch regulation is a shortage of fodder, particularly of concentrated fodder. Of course, under the conditions of mixed feed shortage it is difficult to talk about full supply of it to the private sector. Solution of the problem must not be to the detriment of the public sector. This may be achieved by linking improvement and supply of fodder to LPKh with the state receiving additional production from this farm.

The questions of providing LPKh with coarse and succulent fodder must also be solved on an interbranch basis. At the present time, their procurement by the population involves great difficulties. As a rule, low-yield, uncultivated land is used for this purpose. This yields a certain effect. Practically all fodder resources are included in agricultural rotation. However, their yield can be substantially increased by conducting the simplest amelioration work, which cannot be always conducted by LPKh owners themselves owing to the lack of special equipment. Thus, meliorative construction along with the requirements of the public sector must take the needs of the private sector into account. In the country as a whole the area of natural fodder land totals more than 320 million ha or 58 percent of the total amount of agricultural land and its relative share in gross fodder collection is 25-30 percent. Improvement of natural hayfields and pastures and increase of their productivity will contribute to the growth of fodder production efficiency and will reduce LPKh requirements in concentrated and mixed fodder.

The link of a subsidiary farm with I sphere of APK is not limited only to the consumption of production of machine building and mixed feed and microbiological industries as well as land reclamation. Under contemporary conditions, further intensification of LPKh is also determined by extensive use of mineral fertilizers and chemical means to protect plants. It is necessary to expand the variety of fertilizers and compounds, which are offered to the population, and increase the output of means in small packaging as well as devices for applying them. Stirring up chemical struggle against plant and livestock pests and diseases acquires particular significance. It is impossible, in particular, not to take into consideration that disregard of chemical protection in private plots may lead to serious losses of production in the public sector. Therefore, there is a need for implementing protective measures in LPKh on the basis of cooperation of efforts of the population, kolkhozes, and sovkhozes as well as of Gosagroprom organizations. The latter, including rayon plant protection stations, must also assume control functions. In proportion to the expansion of fertilizer and pesticide utilization in subsidiary farms, measures should be

provided for control over the quality of production, which is delivered to kolkhoz markets. This presumes determination of maximum permissible concentration of chemical matter in products and supplying kolkhoz markets with proper equipment. It is also important to raise the level of consultative-methodical work with the population.

Acceleration of LPKh development depends on the scale of farmstead construction. The experience of social reorganization of the farm sector in 1970-80 and the experimental inspection of various types of habitation in some regions of the country have shown that farmstead development is most adequate for the rural way of life. Meanwhile, the rate of farmstead habitation construction remains low, particularly in highly urbanized areas (Moscow, Leningrad, and other oblasts). This tendency is manifested in individual as well as in public construction. For example, in Moscow Oblast the relative share of farmstead houses in public housing construction amounted to 1.8 percent in 1981. In 1983, it increased to only 5.8 percent. The scale of individual construction has decreased. In the country as a whole its volume decreased to one-half in the past three 5-year plans, while rural population declined by 10 percent. Multistory construction, which to a considerable extent hampers keeping a LPKh, particularly breeding of livestock, has become widespread in the countryside. All of this persistently stresses the importance of realizing the tasks set by the USSR Food Program: rendering all possible assistance to builders with financial and physical resources, supplying them with necessary construction materials, and using more extensively in rural construction of capacities of city house building combines. In the process the growth of monetary expenditures per unit of habitation put into service must be taken into account: if 1 m<sup>2</sup> of living space cost R51.9 to the population in 1961-65 and R70.4 in 1971-75 then it already cost R111.6 in 1981-83. (Footnote 3) (The cited figures do not take into account the expenditures for delivery of construction materials and some other expenses (calculated according to: "The National Economy of the USSR in 1983," Moscow, 1984, pp 355, 418).)

Intensification of production in subsidiary farms in proportion to strengthening their links with capital generating branches of APK and raising the population's interest in developing the private sector require corresponding reorganization of APK's III sphere and, first of all, the processing industry, which has reached considerable proportions in LPKh. For comparison let us point out that in 1983 the food industry produced 10.1 million tons of meat (including grade I meat offals) and 1,455,000 tons of animal oil and subsidiary farms produced correspondingly 6.3 million and 107,000 tons. In speaking of production processing efficiency in LPKh, it should be noted that labor expenditures are high here, losses are considerable, and variety is not wide enough. The causes of such situation are the low level of mechanization of production processes, poor development of cooperation between LPKh owners during production processing, and the lack of organized close links of LPKh and the processing industry as well as industrial shops, kolkhozes, sovkhozes, and interfarm enterprises. Capacities of processing branches are concentrated in cities and rayon capitals and serve large raw material zones. Scientific and technical progress is proceeding along the path of designing equipment of much larger individual capacities, which make it possible to ensure high industrial effi-

ciency of production processing. However, in so doing the hauling distances and transportation expenses grow sharply and the losses of production, particularly of perishable production, increase. Concentration of processing is often not accompanied by corresponding expansion and improvement of the road transportation system and development of specialized transport.

Solution of these questions will make it possible to considerably reduce expenditures for transport operations and to reduce losses. At the same time, this is not the only way. The second direction in raising final results, to which insufficient attention has been devoted up to now, is the establishment in the rural area of a broad network of small processing enterprises on a modern technical basis. It is necessary to note that the current poor efficiency of such enterprises is not caused by the small size itself, but by technical backwardness. Overcoming it and establishing highly efficient, well equipped small enterprises will play an increasingly greater positive role in proportion to the differentiation of the population's requirements and the necessity of satisfying a limited demand for certain kinds of production such as vegetables, green crops, condiments, fruits, and berries.

Integration of the processing industry, the procurement system, and subsidiary farms of the population is particularly important in the given aspect. The latter are called upon to expand the variety of agricultural production, which is produced in agriculture. The role of this function increases with the development of specialization of kolkhozes and sovkhozes, for which it is becoming unprofitable to produce certain products in small quantities. An essential feature of integration of processing branches and LPKh is also the fact that in the private sector under corresponding conditions it is possible to ensure a higher quality of raw materials and to turn out production on the basis of biological agriculture with orientation toward specific requirements of individual groups of the population (children, those ill with allergy, and so forth).

Important prerequisites for expanding processing of production by LPKh are strengthening their integration with processing enterprises and raising the supply of the rural population with packing materials and means of mechanization of processing (separators, butter churns, juicers, dryers, and so forth). At the same time, legal conditions should be established for stepping up cooperation of LPKh owners in the sphere of processing.

The significance of selling and processing agricultural production in the state and cooperative trade system will increase with development of the private sector. In 1983, the share of LPKh products sold to organizations of consumer cooperatives, ministries of trade, and ORS's in the overall volume of the private sector's commodity production amounted for meat to 43.2 percent, for eggs to 23.5 percent, for fruits and berries to 17.3 percent, for vegetables to 11.6 percent, for potatoes to 2.8 percent, and for milk to 2.0 percent. The production activity of the consumer cooperatives systems should be particularly developed. Here the problem of processing LPKh production closely links up with questions of its procurement. As noted at the 11th Congress of USSR Consumers Cooperatives, procurement organizations now have 1,100 small capacity processing shops, which turn out production valued at approximately R100 million. In the 12th 5-Year Plan, their network will be expanded by at least 350 units.

The problem of procurement and processing in LPKh is characterized by a well-known specific nature--territorial dispersal of farms, small volumes of produced batches of production, and its wide variety. Expansion of the network of receiving and procurement centers gains paramount significance in this connection. During the 1981-84 period, 9,700 permanent raw materials receiving centers, which were supplied with necessary equipment, were put into operation in the consumer cooperatives system. This is almost fourfold more than in 1976-80. There are now more than 17,000 of them. Up to 70,000 temporary receiving centers and 5,000 store centers in gardening associations are opened additionally during the mass procurement season. All of this, however, still does not satisfy the existing requirements: there are more 34 million subsidiary farms in the country. Capacities of the procurement system make it impossible to purchase from the population the entire variety of the output produced, first of all the plant growing output, and what's more this is felt particularly sharply in remote populated places. According to our estimate, up to 50 percent of vegetable and melon crops are fed to livestock. To a certain extent this is due to a shortage of fodder, but all the same the main reason is the disproportion in the production procurement and processing system.

The growth of LPKh scale is prompted by the necessity of corresponding development of production infrastructure which ensures moving production from one branch to another and bringing it to the consumer as well as industrial servicing of agro-industrial production. The role of infrastructure in intensification and development of LPKh can scarcely be exaggerated. However, for the most part up to now only the needs of the public sector were taken into consideration during formation of infrastructure capacities. The improvement of infrastructure servicing of LPKh presupposes a differentiated approach in its various spheres. Material and technical supply and transportation services must be carried out in a centralized manner. In particular, in accordance with the USSR Food Program the services of consumer cooperatives were assigned the responsibility of switching to receiving production directly in places where it was produced and hauling it by specialized transport. But the storage base must develop primarily within the framework of household economy. This will make it possible to save capital investments and to reduce the load on the network of storehouses in the public sector. Taking into account that production of LPKh is stored in small volumes, this approach will make it possible to ensure its high quality and to reduce losses. Extensive use of scientific and technical achievements and changing traditional forms of household storage (introducing climatic installations, more powerful refrigerators, and so forth) will be of great help.

Inclusion of LPKh in the system of economic mechanism of the country's entire APK is due to the requirement of their joint (APK as a whole and LPKh in particular) planned regulation and improvement. Only on this basis will it be possible to achieve a coordination of public and private interests under which the latter will appear as a form of realization of the former.

The contemporary stage of improvement of LPKh management mechanism must include the well-known, traditional links of private and public production as well as a search for new forms of their integration. The first direction includes the

interrelations of LPKh owners with kolkhozes, sovkhozes, and procurement organizations. It is expressed in strengthening contractual relations between partners. Recorded in agreements are LPKh commitments with regard to the production of milk, meat, and other products as well as specified measures of assistance on the part of agricultural enterprises to private farmsteads (the sale to them of fodder and providing them with hayfields and pastures, veterinary and zootechnical services, and so forth). Furthermore, credit relations are developed. In 1983, the population received almost R25 million in credits for the acquisition of cows and heifers and nearly R209 million for the construction of greenhouses and improvement of plots. Kolkhozes and sovkhozes, for their part, are interested in reaching agreements. The production, which was purchased on their basis, is counted toward volumes of production and fulfillment of state plans. The contractual system has gained primary development during purchases of meat and milk from the population. The relative share of LPKh production sold to kolkhozes and sovkhozes on the basis of agreements, in the overall volume of the private sector's commodity production, amounted to in 1983 for meat to 28.2 percent and for milk to 73.3 percent.

The practice of agreements reached between the population and consumer cooperatives is widespread. Thus, more than 10 million agreements were signed in 1984 for the supply of surplus production. During the 1980-84 period, more than 4.6 million tons of meat products, 31.5 million tons of potatoes, fruits, and vegetables, and more than 10 billion eggs were purchased from the population according to agreement prices. However, it should be noted that agreements mainly include the rural population, and what's more the greatest attention is devoted to the procurement of animal husbandry products. The contractual system is insufficiently developed with city dwellers--owners of dachas and members of gardening associations and cooperatives, who for the most part raise plant growing production. If one takes into consideration that by 1 November 1983 some 11 million families of workers and employees were engaged in collective gardening and truck farming on an area of more than 760,000 hectares, it will become clear as to what enormous reserves are hidden here, even if these farms are in the main of a subsistence nature.

The second direction in improving integration links between the private and public production sectors is inclusion of the processing industry, retail trade, equipment servicing enterprises, and other units of the APK. The regulation of economic parameters in LPKh interrelations with these organizations must become a prerogative of rayon agro-industrial associations. In our opinion, LPKh establishing direct contacts with retail trade and public catering enterprises is a direction which has good prospects.

Contractual relations of LPKh owners with public production contractors must be organically included in the contracts system in the APK and used in determining plan tasks and their material and technical supply. Thus, the development of LPKh will be placed on a firm plan basis. For this purpose the supply in accordance with agreements must be closely combined so that individual producers are sold young animals of an improved breed of livestock and promising varieties of potatoes, vegetables, mixed feed, gardening implements, means of small-scale mechanization, packing materials, and so forth. The LPKh economic mechanism as a whole is called upon to regulate the entire production

cycle--from ensuring its conditions to realization of production. Management methods can be most varied: from legal and administrative regulation of the amount of land to be used, conditions for the acquisition of equipment and fertilizers, and so forth to broad use of economic levers (rates for services, contractual prices, credit conditions, and so on). In this case the indirect methods of regulation must have priority.

The strengthening of planned principles in the development of LPKh prompts a need to raise the quality of statistical accounting for expansion of the information base, on which management of individual production on the part of a unified economic center is built. It is indicated by data that in 1983 the gross output of LPKh amounted to 7.6 percent of the overall volume of agro-industrial production. Approximately 3 percent of fixed production capital and a little more than 9 percent of the country's APK workers are utilized in agriculture's individual sector. However, this appraisal is a reference in nature. Research proves that, for example, the number of employed in LPKh is substantially understated. (Footnote 4) (See: T. Ye. Kuznetsov "Regarding the Question of Improving Statistical Information on Subsidiary Farms," In the book: "Subsidiary Farm and Its Integration with Public Production," Tallinn, 1984, pp 27-30) The same can be said about information on production output in the private sector. (Footnote 5) (See: A. M. Yemel'yanov "Economic and Social Problems in Realization of the USSR Food Program," Moscow, 1984, pp 38-40) The accounting of fixed production capital, mixed feed, fertilizers, and other resources, which are used in LPKh, is also unsatisfactory.

Vigorous management of LPKh activity contemplates improvement of distributive relations as well. Their shortcomings often cause incorrect appraisal of the socioeconomic consequences of LPKh development. Apprehensions are expressed regarding the advisability of its expansion. Of course, the functioning of LPKh is contradictory in nature. Although the use of mechanization in production here is negligible so far, many LPKh owners have favorable opportunities for obtaining high income. First of all, apart from an insignificant deduction, virtually the entire surplus product which was created in the process of labor, not to mention the necessary product, remains at their disposal. Second, in the sphere of LPKh, as in agrarian economy as a whole, there is no clearly worked through system of rental payments, which makes it possible for individual producers to receive incomes that are determined by natural and climatic factors as well as by site conditions of their land plots. Third, a certain shortage of agricultural production which exists at the present time and the ever increasing effective demand of the population create prerequisites for obtaining additional income by using the price factor.

In the aggregate the effect of aforementioned factors leads to some negative phenomena. First of all, a situation becomes extremely likely when labor in LPKh, calculated per unit of effected expenditures, yields to a worker a relatively large income than production activity at an agricultural enterprise. This reduces the material incentive of rural residents in raising efficiency of the public sector and has a negative effect on their labor activity. In connection with the growth of income, which does not always correspond to real labor contribution, the degree of differentiation of the rural population

according to the level of well-being also unjustifiably increases and to some extent there occurs a groundless redistribution of monetary income between urban and rural population.

Research reveals that a considerable part of the income, which does not correspond to real labor expenditure, is received by LPKh owners through the kolkhoz market system. Considerable volumes of LPKh commodity production is sold here at relatively high prices. Thus, marketable commodities which were produced in the private sector and sold at the kolkhoz market in 1983 included 49.0 percent of potatoes, 38.7 percent of vegetables, 35.7 percent of eggs, 35.1 percent of fruits and berries, 14.1 percent of meat, and 9.6 percent of milk.

It is doubtful whether administrative regulation of the scale of market trade and the level of prices is acceptable. This may lead to the lowering of the population's interest in the development of LPKh. After all, to a certain degree high prices in the market are objectively determined by the great labor intensiveness of the output of production and its better quality as well as by reflecting the supply and demand correlation. At the same time, speculative factors also influence the level of prices. Administrative measures do not differentiate the actions of these two kinds of factors, therefore, in our opinion, preference should be given to economic measures. First of all, this is a more fuller satisfaction of the population's effective demand on the basis of increasing the volumes of agricultural production in the public and private sectors. Second, development of publicly organized forms of selling LPKh production. It is necessary to establish conditions under which it would be profitable for individual producers to turn over production to the state and to cooperative organizations. The system of prices, which is used to purchase production from the population, development of the material and technical base of consumer cooperatives (particularly means of transportation, a network of receiving centers, and packing facilities), and improvement of market activity must be oriented toward this.

An important measure for reducing the unearned income, which is received by a certain part of LPKh owners, is a proposal by some economists of introducing market levies with an ascending tax scale that is built proportionally to the amount of market receipts. This measure is particularly necessary under conditions of large cities where market trade is conducted by rural residents, whose farms are clearly of a commodity nature. Moreover, there is an urgent for a general organization of bureaus in markets which purchase production from LPKh owners for subsequent wholesale sale. At the present time, these functions are being fulfilled in fact by private persons, whose activity bears a speculative character.

Of great significance are also the methods for indirect management of the kolkhoz market, improving seasonal dynamics of state retail prices, granting greater rights to trade enterprises in regulating them (particularly prices for perishable products), expanding the network of state and cooperative trade outlets in kolkhoz markets, and improving their commodity supply and variety.

A particular place in managing the formation process of LPKh income belongs to thorough territorial differentiation of agricultural and income tax for the

purpose of regulating the rental income received by the rural population. This presupposes introduction and utilization of cadastre valuations of individual plots. Thus, the development of state land valuation must include not only public but private land utilization as well. In so doing it is necessary to differentiate tax rates depending on the production realization channel. Thus, exemption from taxes is possible for income received as a result of sale of production according to agreements to agricultural enterprises and procurement organizations. Taxes must be collected, first of all, on the income received in the kolkhoz market. Taxes should be imposed to the greatest extent in such a case on the sale of highly profitable crops: flowers, individual kinds of fruits, and so forth. Introduction of such a system requires broad experimental testing. This will make it possible to work through and spell out its elements and to eliminate negative consequences.

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TILLING AND CROPPING TECHNOLOGY

INTENSIVE TECHNOLOGY IN AGRICULTURE

Moscow SELSKAYA ZHIZN in Russian 17 Apr 86 p 1

[Article: "Spring in Intensive Fields"]

[Text] Spring is progressing throughout the expanses of our native land. The workers of the agro-industrial complex, in putting into life the resolutions of the 27th CPSU Congress, are actively developing field work and are making a firm foundation for the harvest of the first year five-year plan. Sowing is in progress in the Northern Caucasus and the Ukraine, in the Transcaucasus and Central Asia, in the south of Kazakhstan, the Volga Region and the Chernozem zone. The day is not far off when machine operators in other regions of the country will drive their equipment out into the fields.

The most responsible task of the kolkhozes, sovkhozes and all the collectives of the APK [Agro-Industrial Complex] is to carry out the spring sowing properly and with high quality and to ensure a considerable increase in productivity and procurements of grain and other products, as well as fulfillment of the assignments of the Food Program. To this end the flaming May Day Appeal of the CPSU Central Committee summons the agricultural workers:

WORKERS OF THE AGRO-INDUSTRIAL COMPLEX! YOUR PATRIOTIC DUTY IS TO FULLY ENSURE FOOD FOR THE COUNTRY IN A SHORT TIME!

ACHIEVE A DECISIVE RISE IN THE EFFICIENCY OF ALL SECTORS OF THE COMPLEX AND THE LEVEL OF FARMING IN THE RURAL AREAS!

The main direction in carrying out the plans for development of the agrarian sector of the Soviet agronomic system is further intensification of agriculture. The experience of leading kolkhozes and sovkhozes in the Kuban, Ukraine, Belorussia and Siberia shows that with adherence to the set of organizational, agrotechnical and economic measures it is possible to obtain high and steady harvests in all zones and thereby to satisfy more fully the needs of the state for food and raw materials. The basic factor in achieving the goal established is maximum use of the bioenergetic potential of the soil and conditions of the environment and of the tremendous possibilities for the most productive types and varieties of plants. These tremendous reserves can be put into action only with mass introduction of intensive technology in the fields. The essence of technology consists of the collectives of the farms creating the

optimal conditions for raising grain and other crops. They specify comprehensive use of all units of intensification--introduction of effective, scientifically substantiated crop rotation and the use of efficient methods of treating the soil, of a system of fertilization and of means of plant protection. A compulsory requirement is a high level of farming and precise fulfillment of all the technological operations, beginning with the preparation of the soil and ending with the reaping of the harvest.

This year intensive technology will be introduced for the first time on 31 million hectares, including 11 million hectares of spring wheat, almost 4 million of corn and over 1 million hectares of ruppia crops. Industrial methods will also be used in cultivating sugar beets, potatoes, vegetables, sunflowers and cotton. It is estimated that by virtue of intensive technology it is possible to obtain at least 26 million tons of grain and a considerable amount of other products additionally. The main thing now is that when the basic and the additional harvest is formed, not a single spring hour should be lost and that the spring crops on all the planned areas be sown with excellent quality.

This is precisely the way farmers are now working in the Don area, where intensive field work now exceeds 1.2 million hectares. They have covered the winter and fall plowings with moisture, are minutely top-dressing the plantings with nitrogen fertilizers and have developed the sowing of barley and the struggle against pests and diseases. Wide use is being made of leaf and soil diagnostics, permitting precise determination of the need of the plants for fertilizers at specified stages of their development. The schedules for spring work are adhered to strictly in Salskiy, Zernogradskiy, Tselinskiy and Azovskiy rayons. Over a thousand self-supporting collectives, formed in Belgorod Oblast, have taken on the task of cultivating all the grain and industrial crops in accordance with intensified technology. Wide-cut equipment is widely used on the planting and operations for pre-sowing preparation of the soil are combined. All the areas of spring crops are planted with high-quality seeds, with mineral fertilizers applied in the rows. The leading farms of the Ukraine and Moldavia are using well thought out agronomic tactics, estimated to obtain 50-60 quintals of grain per hectare, on intensive fields.

At the same time one cannot but mention the fact that in the course of the sowing serious shortcomings were revealed. At the Yergeninskiy, imeni Chkalov, imeni Leninskiy Komsomol and imeni Volodarskiy sovkhozes of the Kalmyk ASSR there was a delay in harrowing the soil and untreated seeds were raked in poorly treated earth. Many machines stand idle at the farms due to their not having a complete staff of machine operators. The republic agroprom and specialists from RAPO [Rayon Agro-Industrial Association] do not monitor at the site the organization of the field work and are taking no real measures to eliminate shortcomings. Violations of the technology to prepare the soil for spring crops are permitted at some farms in Central Asia. For a long time unstable weather held back the planting progress here. But now that warm days have been established, a number of the kolkhozes and sovkhozes in the Kara-Kalpak ASSR and Khorezem Oblast are not using all the potentials for increasing the rates of cotton and corn planting and all the available equipment here has not been put into operation.

Intensive technology is the present and future of our agriculture. As practical experience shows, a high yield from its use is achieved where the entire complex of agricultural methods is fulfilled successfully and where technical discipline is adhered to strictly. Unfortunately, farm managers and specialists who stand up in words for the new and the progressive have not yet been converted and in reality they simplify the technology and cling to the old and the obsolete. It is important that all the intensive fields be assigned to well-instructed collectives of the brigades and units and that they be allotted the necessary machines, mineral fertilizer and means of plant protection. Worthy of attention in this connection is the initiative of the Saratov farms, which ten-fold increased the area of grain crops cultivated by intensive methods and by virtue of this are planning to obtain an additional million tons of grain. Reliably trained machine operators will cultivate the grain and they will be assisted in this by workers from scientific institutions and specialists. Industrial enterprises have organized the manufacture of parts in short supply of which there were not enough for the technicians, as for example 12,000 sprinklers for sprayers. Other oblasts, krays and republics can and must proceed in this way.

It is important to pay particular attention to seeds--this golden source of the harvest. Their preparation and treatment must be completed everywhere so that only first-class seeds are used for planting. On farms in the Volga region, the Southern Urals and Transurals and in the Steppe regions of Kazakhstan and Siberia the priority should be given to the varieties of grain crops ensuring the receiving of strong and stable kernels of wheat.

At the present time the situation with the seed resources is somewhat better than before. Not everywhere, however. The question as to what increase there will be in yield may be brought up, for example, at some farms in Krasnoyarsk Kray, Buryatiya and Perm Oblast, if so far there a quarter of the seeds of the grain and leguminous crops does not meet the condition requirements. There are extremely few top-quality seeds at Smolensk, Udmurt, Kemerovo and Tyumen kolkhozes and sovkhozes. And after all considerable areas of green crops are to be planted there in accordance with intensive technology. Preparation of the seed resources of buckwheat, millet and sunflowers has so far not been completed in many places. There must be an acceleration of grading by size, incrustation and shipment from the processing enterprises of corn grain designed for sowing. Sorting the seed tubers of potatoes is going slowly, even though very little time remains before mass planting of them.

Time is hastening the farmer. Intensive technology, which is an extremely important factor in a rise in agricultural production, requires the constant attention of party organizations and of all agroprom collectives. To use them in the planting of the spring crops with a deep knowledge of the matter means to raise a great harvest and to take a new step forward along the road to practical realization of the resolutions of the 27th Party Congress.

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